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ABSTRACT

A survey was conducted in Massachusetts in October-November 1978, to determine the public's attitude toward the educational objectives proposed as part of the state's Basic Skills Improvement Policy. The objectives involved standards for graduation from high school, and covered reading, writing, listening, speaking, and mathematics. Three samples were surveyed: (1) 607 adult residents were interviewed over the telephone; (2) a questionnaire was administered to 600 selected public high school seniors; and (3) 2,857 questionnaires were mailed to 1,200 teachers, 400 principals, 283 directors of English, 283 directors of mathematics, 291 school superintendents, 200 school committee chairpersons, and 200 members of the business community. The samples surveyed agreed with the following major survey statements: significant numbers of high school students do not graduate with sufficient skills to handle everyday problems; periodic testing is the best way to test acquisition of basic skills; and all students should be able to demonstrate certain minimum skills before high school graduation. (Opinions about specific objectives, as well as respondents' comments and a summary of the results for each question, are included.) (GDC)

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ESTABLISHING BASIC SKILLS OBJECTIVES IN MASSACHUSETTS : A SURVEY OF PUBLIC REACTIONS

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ESTABLISHING BASIC SKILLS OBJECTIVES IN MASSACHUSETTS:

A SURVEY OF PUBLIC REACTIONS

by

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The design of the sample required the cooperation of several individuals. To protect the privacy of their membership, many organizations do not provide membership lists to anyone, yet nearly everyone we contacted helped us draw our samples one way or the other. I would like to thank Paul Gordon of the Massachusetts Association of School Committees; William Hebert and Phillip Zollo of the Massachusetts Teachers Association; Frank Martin of the American Federation of Teachers; and Louis Perullo, Director of Management Information, Boston Public Schools.

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EXECUTIVE SUMMARY

This survey includes representative samples of the Massachusetts adult population, members of the business community, public school teachers and principals, district directors of English and Mathematics, school superintendents, school committee chairpersons and high school seniors. The major findings include the following:

.... A large majority of those surveyed agree with the following statement: "There are significant numbers of students graduating from high schools in Massachusetts without sufficient skills to solve everyday problems." Among the general public 82% agree, 12% disagree; among educators 74% agree, 18% disagree; among business people 88% agree, 4% disagree; and among students 80% agree, 17% disagree.

.... A large majority of those surveyed also agree with the following statement: "The best way to determine if students are learning necessary skills is through periodic examinations designed to test those skills." Among the general public 87% agree, 10% disagree; among educators 88% agree, 11% disagree; among business people 89% agree, 10% disagree; and among students 81% agree, 18% disagree.

.... More than nine out of every ten people surveyed agree with the following statement: "All students should be able to demonstrate certain minimal skills by the time they graduate from high school." Among the general public 96% agree, 3% disagree; among educators 92% agree, 8% disagree; among business people 99% agree, 1% disagree, and among students 97% agree, 3% disagree.

.... Asked to rate a total of twenty-two basic skills objectives for mathematics as either "extremely important","somewhat important","not too important", or "not at all important" for students to have by the time they graduate from high school, those surveyed clearly differentiated between those objectives they see as necessary and those they view as less important. The mathematics objectives with the highest "extreme important" rating are the following:

1. adding, subtracting, multiplying, and dividing whole numbers
2. computing the total cost of several items, given the cost per unit
3. working with simple fractions
4. working with decimals
5. using percentages to compute interest, discounts, and taxes

Mathematics objectives having the least support as being necessary (i.e., only a small minority of these surveyed feel they are "extremely important") are the following:

1. working with exponents
2. using a variable to represent a number
3. finding the volume of solids
4. estimating the chances that an event will occur

These results are virtually the same for all groups surveyed.

....Asked to rate, in the same fashion, a total of twenty-five communications basic skills objectives in the areas of reading, writing, listening, and speaking, the following objectives have the highest "extremely important" ratings:

READING

1. reading and recognizing words, and understanding the meaning of frequently used words
2. reading and understanding the main idea and important details as stated in a paragraph, article, or book
3. reading, interpreting, and drawing conclusions about a paragraph, article, or book
4. reading and making judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book

WRITING

1. writing using correct capitalization, punctuation, spelling, and sentence structure
2. writing formal business letters and application forms

LISTENING

1. listening to a speaker and identifying the main idea and important details of the speech

SPEAKING

1. speaking clearly and logically when relating a story or requesting general information

The objectives which only a small minority of the respondents feel are "extremely important" are the following:

READING

1. recognizing the components of words such as roots, affixes, and variants
2. translating expressions such as "he is all ears" into their literal meanings

WRITING

1. condensing information into outline or synopsis form
2. writing appropriately for different people

LISTENING

1. listening to a speaker and judging whether or not the speaker was successful in creating the intended mood or effect of the speech

SPEAKING

1. changing voice tone and vocabulary depending upon purpose and listener

Again, these results are virtually the same for all groups included in the study.

I

INTRODUCTION

In September, 1978, the Massachusetts Department of Education contracted the Public Affairs Research Center at Clark University to conduct a survey of public reactions to the proposed objectives of the newly established Basic Skills Improvement Policy. This report presents the results of that survey, which was conducted during October and November of 1978.

The "public" included in this study involves a wide variety of relevant groups. Public school teachers, principals, school superintendents, school committee chairpersons, secondary students, and members of the business community were all sampled as part of the study. In addition, directors (or coordinators) of English and Mathematics programs at the district level have been included in the survey. And finally, the study includes a representative statewide sample of the general public in Massachusetts, with significant representation of ethnic and racial minority groups, as well as parents of children presently enrolled in the public schools.

The survey included two instruments, one an interview schedule which was employed in a telephone survey of the general public, and the second, a questionnaire which was used in a mail survey of the education and business communities. We caution the reader at the outset that in comparing results between the two survey instruments, the different survey methods should be kept in mind. Although mail surveys have inherent problems which usually make them somewhat less effective than interview surveys, mail surveys do provide the respondent with more time for careful reflection on the questions being asked than do interview surveys.

The instruments were developed in a series of three meetings of an ad hoc advisory committee comprised of five groups: 1.) Department of Education Bureau of Research and Assessment staff, 2) representatives of the Communications Competency Task Force; 3.) representatives of the Mathematics Competency Task Force; 4.) representatives of the Advisory Committee on Basic Skills Improvement and 5.) Public Affairs Research Center staff.

The subject matter discussed in the body of the report includes the following:

1.) methods of data collection and structure of the samples

2.) public sentiment on the need for some form of basic skills testing program.

3.) public reactions to the importance of specific mathematical skills;

4.) public reactions to the importance of specific communication skills in the areas of reading, writing, listening, and speaking.

The text summarizes the major findings of the study and points out major variations among the subgroups included in the survey. The Appendix includes information divided into the following sections:

A. an overview of the written comments made by respondents in the "comments" section of the questionnaire, and several pages of verbatim comments divided by specific subgroups;

B. copies of the survey instruments with the frequency distributions of various responses included.

II

METHODS OF DATA COLLECTION AND STRUCTURE OF THE FINAL SAMPLES

The survey design involved three methods of data collection: 1.) a statewide survey of 607 Massachusetts adult residents interviewed by telephone during October 26 through October 29, 1978; 2.) a mail survey in which 2,857 questionnaires were sent on November 3, 1978 to educators and members of the business community throughout the Commonwealth; and 3.) a supervised self-administered survey of 600 public high school seniors selected across the state during the month of November, 1978. What follows is a discussion of these three methods of data collection and the structure of the final samples drawn in each method.

The Telephone Survey of the General Public

The telephone survey sampling procedure was designed to be representative of the adult population 18 years and older, living in the Commonwealth of Massachusetts. The sample design is a stratified probability sample in which the state is divided into twenty-four geographical areas. Within each area the number of households sampled is determined by the size of the area's population as a proportion of the total Massachusetts population. The Public Affairs Research Center employs a technique known as random digit dialing (RDD) to correct for the inherent bias against persons with unlisted phone numbers, new numbers, and changed numbers when only telephone directory numbers are sampled.* Such a technique does not, of course, alleviate the problem of contacting households without telephones, but recent estimates indicate that less than five per cent of all Massachusetts households cannot be reached by telephone.

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*Specifically the RDD technique used by PARC involves selecting a systematic sample of actual telephone numbers from each telephone directory in the Commonwealth, after which a new set of numbers is generated by replacing the last digit of each telephone number with a computer generated random digit.

A total of 502 adult residents were interviewed by telephone using this technique. Table 1 below presents the demographic characteristics of this gereral public sample with minor adjustments having been made with respect to the age and education of respondents.* The sampling error for a sample size

TABLE 1

Demographic Characteristics
of the General Public Sample
(Telephone Survey)
N=502

Sex	
Male	47%
Female	53%

Parental Status	
Children in public schools	35%
Children in non-public schools	4%
No children in school	61%

Age	
18-20	6%
21-24	10%
25-29	16%
30-39	18%
40-49	16%
50-59	12%
60 or over	23%

Race	
White	95%
Black	3 %
Other	2 %

Education	
8th grade or less	9%
High school incomplete	12%
High school graduate	43%
Some education beyond high school	18%
College graduate	11%
Graduate education	7%

Family Income	
Under $5,000	16%
$5,000-$10,000	14%
$10,000-$15,000	23%
$15,000-$20,000	19%
$20,000-$30,000	16%
Over $30,000	12%

Type of Community	
Large City	36%
Suburb	39%
Nonmetropolitian area	25%

Geographical Region	
East	57%
Southeast	18%
Central	11%
West	14%

of 500 is approximately five per cent. That is, given the laws of probability on which sampling is based, we can be ninety-five per cent confident that percentage results for this sample of the general public are within ±5 percentage points of the true population figure (i.e., the percentage results we would obtain by interviewing every adult in the Commonwealth).

One other component of the general public survey included an additional sampling procedure to assure adequate representation of ethnic and racial groups, with a focus on Blacks and Hispanics. Because Blacks and Hispanics make up such a small proportion of the Massachusetts population, only a very few are included in a representative sample of the Massachusetts public. In this sample of 502 residents, only thirteen Blacks and one Hispanic are included. To increase the size of the minority group subsample, major urban areas throughout the Commonwealth were oversampled, and a screening question was used to target Black and Hispanic households.** A total of 105 minority group respondents were interviewed in this manner, raising the minority subsample to 119. The reader should bear in mind this is primarily an urban minority sample drawn from the Commonwealth's major cities, and not a representative sample of all Blacks and Hispanics in the Commonwealth. But, since the Black and Hispanic population is predominately urban anyway, drawing a sample of these groups from the state's major cities does tend to include most of the Black and Hispanic population.

It should also be noted that this Black and Hispanic subsample of 119 respondents is quite small, which means a substantially larger sampling error of approximately 10% (i.e., we can be 95% confident that percentage results for this sample are within ±10 percentage points of the results we would obtain by interviewing every Black and Hispanic urban resident in the Commonwealth).

---

* In sample surveys of large heterogeneous populations, there is usually some underrepresentation of less educated and older people, i.e., the sample proportion of such groups is lower than the actual numbers in the population. The standard survey procedure which we employ here is to apply weights to the sample in order to correct for this underrepresentation, yielding a sample which is demographically representative of the larger population, in this case the adult Massachusetts population.

** The interview schedule was translated into Spanish and Spanish speaking interviewers handled the interviews with non-English Hispanics. The initial screening question, included as part of the introduction

Finally, we should point out that the 105 additional minority respondents are not included in the results presented for the general public sample discussed earlier. To include those additional respondents would have the effect of overrepresenting Blacks and Hispanics in the general public results. Results for those additional minority group members surveyed are discussed throughout the report, but they are included as a separate category of respondents.

The Mail Survey of Educators and Members of the Business Community

The mail survey was designed to include a sample of the Massachusetts business community as well as the following six groups within the public education community: teachers, principals, district directors of Mathematics, district directors of English, school superintendents, and school committee chairpersons.

A total of 2,857 questionnaires were mailed on November 3 to systematically selected educators and business people. Table 2 on the following page presents the distribution of the 2,857 questionnaires by group.

**(continued) in this portion of the survey was: "Over the past couple of weeks, we have been taking a survey of Massachusetts residents for the State Department of Education. We are now interested in collecting the opinions of members of minority groups. Therefore, we are now interviewing Blacks and Hispanics. Would you consider yourself a member of either of these groups?"

TABLE 2

Numbers of Individuals Selected for the Mail Survey By Group

Elementary and secondary teachers.	1200
Elementary and secondary principals.	400
Directors (or coordinators) of English	283
Directors (or coordinators) of Mathematics.	283
School superintendents.	291
School committee chairpersons	200
Business community members.	200
TOTAL	2,857

The teacher sample (N=1200) was designed to be representative of both the Massachusetts Teachers Association and the American Federation of Teachers. The sample was obtained from three different sources. First, the Massachusetts Teachers Association drew a systematic sample of 950 members and provided PARC with mailing labels for that list. This sample of 950 MTA members out of a total sample of 1200 teachers is roughly proportional to the size of the MTA membership as a proportion of the state's teacher population. The remaining sample of 250 teachers was drawn from the American Federation of Teachers membership. Since a statewide listing of the AFT membership was not made available for the study, the decision was made to sample the three largest AFT locals, Boston, Springfield, and Lynn. Taken together these locals make up approximately three-fifths of the statewide AFT population. The Lynn and Springfield samples were drawn by local union officials, who forwarded the questionnaires to selected teachers. In Boston, teachers' union officials decided not to participate , so the sample for teachers was drawn with the cooperation of the Boston school superintendent's office. Four Boston school districts were selected at random, and within each district, five public schools were randomly selected. Within each school, principals were asked to randomly select eight teachers to complete the questionnaire. A total of 160 Boston teachers were sampled in this fashion.

The principal sample (N=400) was drawn from a statewide listing of elementary and secondary public school principals made available by the Department of Education's Bureau of Research and Assessment. Both elementary and secondary principals were sampled in proportion to their actual numbers in the population of Massachusetts school principals.

With respect to school superintendents and district directors of English and Mathematics, no sampling procedure was necessary. Each school district in the Commonwealth received a questionnaire for its superintendent, director of Mathematics, and director of English. Mailing labels for these groups were made available by the Department of Education.

The sample of 200 school committee chairpersons was drawn from a statewide listing made available by the Massachusetts Association of School Committees.

For the business community of 200, the decision was made to focus on personnel management officers as the business community members who have initial contact with and firsthand knowledge of the credentials of high school graduates. Individuals in this group were selected from listings of three regional personnel management associations: the Central Massachusetts Personnel Management Association, the Western Massachusetts Personnel Management Association, and the New England Society for Personnel Management.

Of the 2,857 questionnaires mailed, a total of 1882 were completed and returned prior to the December 10 deadline. This means an overall response rate of 66 per cent, which, by the standards of mail survey response, is quite high. In our attempt to maximize the response rate, we used a three stage procedure. First, questionnaires were mailed to all 2,857 selected respondents in early November. Second, as returns began to dwindle we sent a second mailing to those 1800 individuals who had not responded by November 22.* Third, a random sample of approximately 600 of the nonrespondents were telephoned from our survey research center and were encouraged to fill out and return their questionnaire.

The response rate by group is presented below in Table 3. A glance at the right hand column of this table indicates that the highest response rate was found among directors of Mathematics (76%) and English (70%). Such a finding, is, of course, not surprising given the subject matter of the survey. The lowest response rate, on the other hand, was found among school committee chairpersons (52%) and teachers (58%). It should be added, however, that even though these two groups ranked lowest among those surveyed, their response rate of over 50% is still high by most mail survey standards.

TABLE 3

Mail Survey Response Rate
by Subgroup

	Number Selected	Number Returned	Response Rate
District directors of Mathematics	283	215	76%
District directors of English	283	198	70%
Principals	400	272	68%
Superintendents	291	191	66%
Business community members	200	123	62%
Teachers	1200	703	58%
School committee chairpersons	200	104	52%

---

* In order to be able to identify nonrespondents, yet maintain the anonymity of all respondents, we had included a numbered postage paid postcard along with each questionnaire, and asked respondents to return the postcard separately from their completed questionnaire. A matching numbered master list of all respondents provided a means of identifying who had returned the questionnaire and still maintain anonymity in the survey.

The demographic characteristics of the mail survey sample of educators and business people are presented in Table 4 on the following pages. As this table indicates, the mail survey sample includes a rather broad demographic distribution of respondents. Geographically, the sample is distributed throughout the state, with the largest proportion of respondents (except for the business community) coming from the most populated area of the state, as one would expect. There is also a wide distribution in terms of type of community--urban, suburban, and nonmetropolitan areas--as well as a good distribution among different types of teachers.

For each group included in the mail survey, the sample was designed to be representative of that group's population throughout the Commonwealth. In most instances low response rates in mail surveys yield a final sample of respondents which is biased one way or another; however, given the particularly high response rate in this study, coupled with the broad demographic distribution shown in Table 4, does add confidence to the notion that the samples included in this study are broadly representative of the larger populations. Assuming randomly selected, representative samples, the confidence intervals for the sample results of all groups included in the mail survey are all within a ± 5% range of the true population figures.

The one exception would be the business community sample. The personnel management associations sampled were regional associations located in the eastern, central, and western parts of the state. Thus, businesses in the southeastern portion of the state were not included. Strictly speaking, then, when we refer to the business community sample, we refer to a sample of personnel management officers drawn from all parts of the Commonwealth, except the southeastern corner of the state.

The Student Survey

Since students will be the primary consumers of the Basic Skills Improvement Policy, including them as a component of this study was of obvious importance. The student survey was designed to include a statewide sample of 600 public high school seniors. To develop the sample in the most cost effective manner, thirty high schools were systematically selected from a statewide listing of all schools, and, within each, school officials randomly selected twenty seniors. PARC officials visited each school for the purpose

TABLE 4

Demographic Characteristics of the Education and Business Communities Sample (Mail Survey)

	Elementary Teachers (322)	Secondary Teachers (381)	Directors of English (198)	Directors of Math (215)	Elementary Principals (181)	Secondary Principals (91)	Superintendents (191)	School Committee Chairpersons (104)	Business Community (123)
Sex									
Male	19%	54%	63%	78%	77%	99%	97%	68%	68%
Female	81	46	37	22	23	1	3	32	32
Region									
East	63	56	40	43	56	56	46	39	30
Southeast	18	19	23	26	19	16	18	15	0
Central	10	10	19	15	13	10	17	19	36
West	9	15	18	16	12	18	19	27	34
Type of Community where employed									
Big city	41	29	7	9	19	10	7	3	Not Asked
Industrial suburb	7	7	9	8	11	8	12	3	
Residential suburb	25	37	39	38	43	48	40	35	
Small town or other community	27	26	45	44	28	33	41	59	
Size of school population									
Less than 300	46	3	NA	NA	34	5	NA	NA	NA
301-700	40	21			62	39			
701-1300	12	40			4	32			
1301 or more	2	35			0	25			

TABLE 4 (continued)

Demographic Characteristics of the Education and Business Communities Sample (Mail Survey)

	Elementary Teachers (322)	Secondary Teachers (381)	Directors of English (198)	Directors of Math (215)	Elementary Principals (181)	Secondary Principals (91)	Superintendents (191)	School Committee Chairpersons (104)	Business Community (123)
Years taught									
Less than 3 years	4%	6%	NA	NA	NA	NA	NA	NA	NA
4-7 years	22	22							
8-12 years	32	32							
13-19 years	23	17							
20 years or more	19	23							
Subject taught									
English	41	20	NA	NA	NA	NA	NA	NA	NA
Mathematics	7	13							
Science	10	15							
Social Studies	9	14							
Art-Music	10	5							
Physical education	3	7							
Industrial Arts-Home Economics	2	13							
Business	0	7							
Languages	17	7							

of supervising the self-administered questionnaire. The questionnaire used for the student sample was the same as that for the groups included in the mail survey. Only the method by which the sample was drawn and the method of data collection differed.

Of the thirty schools originally selected, five decided not to participate, so five additional schools were selected at random as substitutes. The result was a good mix, both geographically and in terms of types of schools. Fourteen schools were located in the eastern part of the state; two in the southeastern corner; six were in central Massachusetts; and eight in the western portion of the state. Three of the thirty schools selected were vocational high schools and six were regional high schools. Five schools were located in large cities; three were in industrial suburbs; ten in residential suburbs; and twelve were located in small towns or other communities.

A total of 590 students are included in the final sample. The demographic characteristics of the student sample are presented in Table 5, below:

Table 5

Demographic Characteristics of the Student Sample N=590

Sex	
Male	46%
Female	54%
Region	
Eastern	46%
South-eastern	7%
Central	20%
Western	27%
Grades	
Mostly	
A's	20%
B's	57%
C's	23%
D's or F's	0%

Type	
Big City	18%
Industrial Suburb	10%
Residential Suburb	33%
Small Town or Other Community	39%
Size of School Population	
Less than 300 students	0%
301 to 700 students	35%
701 to 1300 students	31%
1301 or more students	34%

Of particular interest is the distribution of grades of the student sample. One in five seniors reported their grades were mostly A's, while over half, 57%, said they received mostly B's. Less than one in four, 23%, reported getting mostly C's, and only one person of the 590 surveyed (which rounds to 0%) said that his grades were mostly D's and F's.

III

Attitudes Toward the Concept of Basic Skills Improvement

Three questions included at the beginning of both survey instruments were designed to tap public perceptions of the need for some form of basic skills improvement program in the Commonwealth's public schools.

Measuring the Belief that a Basic Skills Problem Exists

The first question was included as a measure of the extent to which the public believes that students are graduating from Massachusetts high schools with insufficient levels of necessary skills. As a measure of belief, the question seeks to assess whether or not the public feels a basic skills problem exists in Massachusetts. Since the Basic Skills Improvement Policy is based upon the need to assure the learning of basic skills, the extent to which relevant publics feel such a problem exists is of obvious importance to the success of the policy. The actual wording of the statement (to which respondents were asked to either strongly agree, mildly agree, mildly disagree or strongly disagree) was the following:

> "There are significant numbers of students graduating from high schools in Massachusetts without sufficient skills to solve everyday problems."*

---

* A comment on this item should be made here to clarify an important point. The word "significant" in the item can clearly mean one thing to one person, something else to another, and something else to yet another person. Although the word is fraught with ambiguity in this context, its use is intentional. Our aim here is to tap whether or not people believe a basic skills problem exists in Massachusetts, not how much of a problem exists (although such a measure is clearly important in its own right). For the present purpose, the belief that 1% graduating without sufficient skills is just as important as the belief that 20% is a significant number.

The results, broken down by major subgroups, are presented in Table 6 on page 17. The top boxed in row of figures in the table indicate the percentage results for the general public. The results show that a large majority, 82%, agree that there are significant numbers of students who graduate from Massachusetts high schools without sufficient basic skills. Over half of the state's residents, 55%, agree strongly with the statement. On the other hand, a little more than one in every ten state residents disagree with the statement, with 6% offering no opinion.

Among the general public agreement that a significant number of graduates lack necessary skills cuts across the state's major demographic groupings, as is shown in Table 6. Regardless of one's age, income and education level, or where one lives in the state, or even whether or not one has children in the public schools, the results tend to be rather uniform with large majorities in all groups feeling that a basic skills problem does exist.

Compared to the sentiment of the general public, educators are less in agreement that significant numbers of graduates lack sufficient necessary skills. Examining the boxed in row of figures next to the Educators heading, one can see that while a large majority ---74%--- of the state's educators do agree with the statement, the number who agree is smaller than for the general public; and, in particular, the number who agree strongly is considerably smaller---38% of the educators versus 55% of the general public.

Like the general public, agreement with the statement cuts across all groups of educators, but here there is some variation in extent of agreement from group to group. Those most in agreement are school committee chairpersons and secondary school teachers. Eighty-four percent of both these groups agree. On the other hand, those least likely to feel that significant numbers of graduates lack basic skills are school superintendents. Although it is still a substantial majority, only 61% of the state's superintendents agree with the statement, while 29% disagree. The number of superintendents who disagree is more than twice that of school committee chairpersons, and nearly three times that of secondary school teachers.

TABLE 6

Public Belief That a Basic Skills Problem Exists in Massachusetts

	Agree Strongly	Agree Mildly	Disagree Mildly	Disagree Strongly	Don't Know/ No Opinion
GENERAL PUBLIC					
All	55%	27	7	5	6
Parental Status					
Public school parents	50%	34	6	7	3
No children in school	57%	24	6	4	9
Minority Group Members	60%	19	8	5	7
Type of Community					
City	60%	22	6	4	7
Suburb	51%	29	9	6	5
Nonmetro. town	55%	30	4	5	7
Geographical Region					
East	53%	29	7	5	6
Southeast	61%	18	10	7	4
Central	63%	22	5	2	8
West	49%	34	4	4	9
Age					
18-29	55%	27	8	4	6
30-49	54%	29	8	6	4
50 or older	56%	26	5	5	9
Education					
Less than high school	51%	26	7	4	12
High school graduate	60%	26	5	7	2
Some education beyond high school	58%	28	6	1	7
College graduate	46%	30	10	5	9
Income					
Less than $10,000	41%	32	8	6	13
$10,000 - $20,000	60%	25	5	5	5
More than $20,000	55%	27	9	4	4
EDUCATORS					
All	38%	36	11	7	8
Elementary teachers	41%	33	10	4	12
Secondary teachers	48%	36	7	3	5
Directors of English	35%	34	15	9	7
Directors of Math	42%	31	12	8	6
Elementary principals	29%	37	14	8	11
Secondary principals	25%	44	13	9	9
Superintendents	20%	41	14	15	9
School committee chairpersons	41%	43	9	4	3
BUSINESS COMMUNITY	58%	30	2	2	8
STUDENTS	29%	51	14	3	3

These differences among educators are interesting. Those closest to monitoring the actual capabilities of students about to graduate, i.e., secondary teachers, are strongest in their agreement that significant numbers of students graduate without sufficient skills to handle every day problems. The same level of agreement is found among those charged with school district policy decisions, i.e., school committee chairpersons. Greatest disagreement, on the other hand, is found among those who are charged with overseeing the implementation of policy, school superintendents. Why these differences occur are not clear, and we included no additional questions which might shed light on the reason for the differences. Furthermore, we will not speculate on the explanation for such differences. We leave speculation to the discretion of the reader.

Turning to the findings for business community members, the results indicate that this group, more than any other in the entire sample, feels a basic skills problem exists in the Massachusetts schools. Nearly nine in every ten personnel management officers surveyed feel significant numbers of high school graduates lack necessary skills, while less than one in twenty---4%---disagree.

The findings for students indicate that, like all other groups in the Commonwealth, a large majority of those who will be the primary consumers of the Basic Skills Improvement Policy feel a basic skills problem does exist. While their agreement is considerably "milder" than other groups surveyed, less than one in every five students feel the number of students graduating from high school is not of significant proportions.

Before moving on to the results of the other two general questions, the findings on the widespread public belief that a significant basic skills problem exists in Massachusetts requires some comment. Though public sentiment on the basic skills problem is clear, this should not be taken as a general indictment of the public schools in the Commonwealth. On the contrary, evidence from a Spring, 1978, statewide survey conducted by Clark's Public Affairs Research Center indicated that, in general, most people in Massachusetts feel the public schools in their own community are doing a good job in educating the community's children.* This neither contradicts nor denies the finding here of a widespread public belief that significant numbers of students are graduating from high schools with insufficient basic skills, but it does suggest extreme caution in interpreting the findings presented here as evidence of generalized public dissatisfaction with the state's public schools.

Measuring Attitudes Toward the Appropriateness of Examinations to Test Basic Skills

The second question asked in this series concerned public perceptions of the appropriateness of examinations as a method for assessing whether or not necessary skills have been learned by students. This question was included as a natural follow-up to the first. Having measured in very general terms whether or not people perceive a basic skills gap to exist, the purpose of the second question was to measure public perceptions of the usefulness of "testing" for the achievement of a minimum level of necessary skills.

The actual wording of the statement, which, again respondents were asked to report the extent to which they agree or disagree was the following:

> "The best way to determine if students are learning necessary skills is through periodic examinations designed to test those skills."

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* The question asked in that survey was the following: "Students are often given grades A,B,C,D and FAIL to denote the quality of their work. Suppose the public schools themselves, in your community, were graded in the same way. What grade would you give the public schools in your community---A,B,C,D, or FAIL"? The statewide results showed that 51% of all Massachusetts residents gave their schools a grade of "A" or "B", and an additional 25% gave their schools a "C". Only 11% gave their schools an unsatisfactory grade of "D" or "F", and the remaining 13% offered no opinion.

The results are presented in Table 7 on page 21. Again, the top row of figures represents the percentage results for the general public taken as a whole. The table shows an overwhelming majority (87%) of the general public in Massachusetts support the concept of periodic examinations to test basic skills achievement, with 65% of the public strongly agreeing with the statement. Only one in ten residents disagree and 3% offer no opinion.

General public support for the appropriateness of examinations is fairly uniform across all the state's major demographic groupings, with large majorities in all groups agreeing with the statement.

Educators, taken as a whole, support the concept of periodic examinations at approximately the same level as the general public. A total of 88% agree, while only 11% disagree with the statement. The one difference between educators and the general public is that educators are significantly "milder" in their support, with 51% agreeing strongly with the statement, as opposed to the general public figure of 65%.

Within the education community, the findings show widespread support within each subgroup, though significant variation in the extent of support does exist. School committee chairpersons and district directors of Mathematics have the highest percent in agreement with the statement, while those least in agreement are school superintendents and district directors of English. Again, we could speculate on the reasons for these differences, but without evidence to support our explanations, we prefer to leave speculation to the reader.

The findings for the business community indicate a level of support which is very similar to that of the general public, with 89% agreeing with the statement only 10% disagreeing.

For students, the group in which one might expect to find substantial disagreement, the findings show that, on the contrary, 81% agree with periodic examinations to test basic skills. While it is true that students are somewhat less supportive of examinations than either the general public, educators as a group, or the business community, the results indicate that even students clearly believe examinations provide the best measure of achievement of minimum basic skills.

TABLE 7

Public Support for Examinations to Test Basic Skills

	Agree Strongly	Agree Mildly	Disagree Mildly	Disagree Strongly	Don't Know/ No Opinion
GENERAL PUBLIC					
All	65%	22	6	4	3
Parental Status					
Public school parents	68%	20	7	4	2
No children in school	64%	23	6	4	4
Minority Group Members	55%	26	8	7	5
Type of Community					
City	66%	24	6	2	2
Suburb	62%	25	6	5	2
Non-metro. town	70%	15	7	4	4
Geographical Region					
East	67%	19	6	4	4
Southeast	68%	27	4	1	0
Central	58%	17	13	6	6
West	60%	32	4	3	1
Age					
18-29	57%	26	11	6	0
30-49	72%	20	4	2	2
50 or older	66%	22	4	3	6
Education					
Less than high school	61%	23	4	3	8
High school graduate	68%	19	7	4	2
Some education beyond high school	72%	17	7	3	1
College graduate	55%	34	6	4	2
Income					
Less than $10,000	52%	30	9	3	6
$10,000 - $20,000	74%	16	5	4	1
More than $20,000	64%	25	4	4	2
EDUCATORS					
All	51%	37	7	4	1
Elementary teachers	52%	34	8	4	2
Secondary teachers	55%	34	6	3	2
Directors of English	40%	38	11	7	4
Directors of Math	60%	33	5	0	2
Elementary principals	47%	43	6	3	1
Secondary principals	54%	37	7	2	0
Superintendents	37%	45	11	6	1
School committee chairpersons	62%	32	4	3	0
BUSINESS COMMUNITY	61%	28	8	2	1
STUDENTS	35%	46	13	5	2

Measuring Public Support for the Concept of a Basic Skills Improvement Program

The third and final question asked in this introductory series concerned public support for the overall concept of a basic skills improvement program. Compared to the first two questions, which were designed to assess public belief that a basic skills problem exists and public support for the concept of testing basic skills, this third question was designed to measure public reaction to the essential purpose of the Massachusetts Basic Skills Improvement Program; that is, that students be able to demonstrate certain minimum skills by the time they graduate from high school.

The actual statement included, which, again, respondents were asked to report the extent to which agree or disagree, was the following:

> " All students should be able to demonstrate certain minimum skills by the time they graduate from high school."

The reader should note that this survey item includes no reference to passing a basic skills examination as a requirement for high school graduation. Such a requirement is not a part of the present Massachusetts Basic Skills Improvement Policy; and, as such, this item should not be interpreted as evidence for or against an examination requirement for high school graduation. What it does measure, to repeat, is the level of public support for the concept which underlies the Basic Skills Improvement Policy.

The results are presented in Table 8 on page 23. As one might expect given both the generality of the question and the previously discussed findings, there is widespread support in the Commonwealth for the notion that students should be able to demonstrate certain minimum skills by the time they graduate from high school.

TABLE 8

Public Support for the Concept of a Basic Skills Improvement Program

	Agree Strongly	Agree Mildly	Disagree Mildly	Disagree Strongly	Don't Know/ No Opinion
GENERAL PUBLIC					
All	87%	9	2	1	1
Parental Status					
Public school parents	90%	8	1	1	0
No children in school	86%	10	2	1	1
Minority Group Members	83%	12	4	0	1
Type of Community					
City	85%	12	1	3	0
Suburb	89%	8	2	0	1
Non-metro. town	88%	9	1	1	1
Geographical Region					
East	86%	11	1	2	0
Southeast	94%	4	1	1	0
Central	90%	8	2	0	0
West	82%	11	3	2	2
Age					
18-29	86%	9	2	1	1
30-49	90%	7	1	2	0
50 or older	86%	11	2	1	1
Education					
Less than high school	86%	12	2	0	0
High school graduate	86%	9	3	2	1
Some education beyond high school	90%	9	0	1	0
College graduate	89%	7	1	2	0
Income					
Less than $10,000	83%	15	1	0	1
$10,000 - $20,000	90%	8	2	1	0
More than $20,000	94%	4	1	1	0
EDUCATORS					
All	75%	17	4	4	0
Elementary teachers	82%	11	4	2	0
Secondary teachers	85%	11	1	2	0
Directors of English	71%	20	3	5	1
Directors of Math	72%	17	4	6	0
Elementary principals	63%	23	7	7	1
Secondary principals	67%	22	5	5	0
Superintendents	57%	26	11	5	1
School committee chairpersons	83%	16	1	0	0
BUSINESS COMMUNITY	96%	3	1	0	0
STUDENTS	78%	19	2	1	0

Looking first at the results for the general public, 96% agree with the statement, with almost nine out of ten agreeing strongly. Furthermore, the table shows agreement with the statement is relatively uniform within each demographic group in the state.

Educators also overwhelmingly agree with the statement by a 92% to 8% margin, but the strength of agreement is not quite as high among educators as it is among the general public. While 87% of the general public agrees strongly, the comparable figure for educators is 75%.

Examining the subgroups of educators in Table 8, one can again see variation in strength of agreement, even though all groups show widespread support for the concept. Strongest agreement is found among secondary teachers and school committee chairpersons, the two groups who are also strongest in their belief that a basic skills problem exists in Massachusetts. Weakest agreement (but keep in mind this means only weakest relative to other educators) is found among school superintendents and elementary principals. Indeed, if one looks at the percentage who disagree, the findings show that 16% of the superintendents and 14% of the elementary principals disagree, while only 3% of the secondary teachers, and only 1% of the school committee chairpersons disagree.

Turning to the business community in Table 8, one can see almost unanimous strong agreement (96%) with the notion that students should be able to demonstrate certain minimum skills before graduation. This figure represents the strongest agreement of any group included in the study.

Agreement with the statement is also very strong among high school seniors. Although students are considerably "milder" than business people in their agreement (78% agree strongly), a total of 97% agree with the concept which underlies the Massachusetts Basic Skills Improvement Policy.

Summary and Comments

The findings discussed in this section point rather clearly to three conclusions. First, there exists a widespread belief throughout the Commonwealth that significant numbers of students are graduating from Massachusetts public high schools without sufficient skills to handle everyday problems. Second, there is widespread public support for the notion that the best way to determine if students are learning necessary skills is through periodic examinations designed to test these skills. And third, there is overwhelming public support for the notion that all students should be able to demonstrate certain minimum skills by the time they graduate from high school.

In general, strongest agreement with the three statements is found among the business community, with the general public second and the education community, including students, third.

While these conclusions are clearly suggested by the evidence presented, some words of caution are in order as well. First, items included in this section are three very general items designed to measure public reaction to three broad concepts: 1.) the belief that a basic skills problem exists in Massachusetts; 2.) attitudes toward the appropriateness of examinations to test basic skills; and 3.) support for the concept of a basic skills improvement program. Although more specific items flow naturally from each of these general ones, they were not included in the study because the major emphasis of the study is not public attitudes toward basic skills improvement in general, but rather public reaction to the specific objectives developed as part of the Massachusetts Basic Skills Improvement Program, which we take up in the following sections. We stress the notion that each of the three broad concepts measured by these single items involves a complex of factors. The items included tap only the broadest aspect of this complex of factors; as such, we urge that the results be interpreted with appropriate caution for broad questions. Furthermore, it is important to note that the strong evidence for public support for the concept of the Basic Skills Improvement Program should not be taken as evidence of public support for the more specific aspects and guidelines of the program, such as the timetable for implementation, the standards to be set, the grade levels to be tested, and other specific aspects of implementation. Since we included no questions on specific aspects of implementation, we have no evidence of public opinion on implementation.

IV

Public Reaction to the Mathematics Objectives

This section presents a discussion of public reaction to the importance of several mathematical objectives which have been proposed as necessary skills which students should have before they graduate from high school.

The survey instrument for the general public included thirteen specific mathematical skills, which respondents were asked to rate as either "extremely important", "somewhat important", "not too important", or "not at all important" for all students to have by the time they graduate from high school.* The words "all students" were included after much agonizing over the wording of the question. On the one hand, to include the word "all" is too inclusive, given the fact that some special needs students may not be expected to perform to the same minimum standards as regular education students; and, in fact, may be exempted from the testing program. To omit the word "all", on the other hand, leaves the question too ambiguous, and would mean adding so many qualifiers as to make the question highly confusing. The decision was made, therefore, to include "all students" for clarity and for the purpose of establishing a kind of benchmark from which public opinion on the relative importance of each objective could be measured.

The survey instrument for educators, students, and the business community included all thirteen of the mathematics objectives which had been included for the general public, plus an additional nine objectives, raising the total mathematics objectives asked of these groups to twenty-two.**

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* See Appendix B, p.2 for the exact wording of the question.

** The reason for including fewer items for the general public involved both the subject matter of the survey and the method in which the data was collected. Asking the general public in an interview situation to rate the importance of several mathematics and communications skills is simply not the most attention-keeping subject matter one could include in a public opinion survey. Long lists of such items tend to exhaust the attention span of respondents, yielding less and less reliable information with increasing length. Both for this reason and because the material is more intrinsically interesting to educators, we decided to include fewer items in the telephone survey of the general public.

And Like the general public, the question asked these respondents to rate each item as "extremely important", "somewhat important", "not too important", or "not at all important" for all students to have by the time they graduate from high school.

General Public Results

Looking first at the results for the general public (telephone survey), Table 9 shows each statement along with the distribution (in percent) of responses to each statement. Using the "extremely important" category as a way to rank the objectives in terms of importance to the general public*, one can see that four of the thirteen objectives receive an "extremely important" rating by more than three-fourths of the state's residents. The ability to add, subtract, multiply, and divide whole numbers is viewed as "extremely important" by 97% of the general public. This is followed, in order, by working with simple fractions, (83%), working with decimals (76%), and using percentages to compute such things as interest, discounts,and taxes (75%). In all, the importance of these five mathematical skills seems to be substantially agreed upon by the Massachusetts general public.

On the other hand, five of the thirteen mathematical objectives are viewed as "extremely important" by less than half of the Massachusetts general public. Only 22% feel the ability to estimate the chances that an event will occur is "extremely important". This lowest item is followed, in order, by the ability to understand tables and graphs (39%), the ability to use simple formulas (46%), the ability to

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* We use only the "extremely important" category as the measure of public support for the various objectives for one reason. Since the aim of the program is to establish skills which are deemed necessary to solve everyday problems, and since the aim of this study is to assess public sentiment with respect to which skills are necessary, then the "extremely important" response is clearly that category which best represents "necessary". And, in any event, including both "extremely" and "somewhat important" together as the measure of support does not substantially alter the interpretation.

TABLE 9

General Public Ratings of Thirteen Mathematics Objectives (Telephone Survey)

N=502

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not too Important	Not at all Important	Don't Know/ No Opinion
a. use a highway map to figure out the distance from one city to another.	47%	40	12	1	0
b. identify a triangle, right angle, square, and sphere	55%	32	10	2	1
c. understand tables and graphs such as a mileage table or bar graph	39%	43	11	2	4
d. estimate the chances that an event will occur	22%	36	25	8	9
e. add, subtract, multiply, and divide whole numbers	97%	2	0	0	1
f. work with fractions such as one-quarter, one-half, and one-third	83%	14	2	0	1
g. work with decimals	76%	20	3	0	2
h. use percentages to compute interest, discounts, and taxes	75%	20	4	0	1

TABLE 9 (continued)

General Public Ratings of Thirteen Mathematics Objectives (Telephone Survey)

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not too Important	Not at all Important	Don't Know/ No Opinion
i. estimate length, weight and area	53%	35	10	1	1
j. approximate amounts such as rounding off to the nearest dollar	67%	26	6	0	1
k. understand and use metric units of measurement as well as customary units of measurement	49%	32	13	4	2
l. use simple formulas such as area equal length times width	46%	41	9	2	3
m. find an average such as average temperature and average income	61%	31	6	0	1

use a highway map (47%), and the ability to understand and use metric as well as customary units of measurement (49%). Of the thirteen objectives included, these are the five which can be viewed as the least important skills in the eyes of the general public.

Table 10 on page 32 presents the general public results, broken down by various demographic categories. The thirteen objectives are listed at the bottom of Table 10, and serve as a key. Each column of the table shows the results for a given demographic group, with the thirteen items ranked according to the percentage of respondents who rate a given item as "extremely important".

In general, Table 10 shows very little difference in the ratings of these objectives by various demographic groups. At the top end, the ability to add, subtract, multiply,and divide whole numbers (item "e") ranks first among all groups in terms of percent viewing it as "extremely important"; and the ability to work with simple fractions (item "f") ranks second across all groups. Furthermore, items "g" and "h", working with decimals and using percentages, rank either third or fourth among all groups.

Toward the bottom end of Table 10, one can see that item "d", estimating the chances that an event will occur, ranks lowest among all demographic groups in the general public sample. Other objectives which rank consistently low in all groups are the ability to understand tables and graphs (item "c"), the ability to use simple formulas (item "l"), and the ability to use a highway map (item "a").

Education and Business Communities Results

Since educators, students, and business community people were asked to rate the importance of nine additional objectives, it is a bit difficult to directly compare the findings for these groups with the findings for the general public at large. Our strategy will be to first compare the education and business community results with the general public results for those thirteen items the two instruments

TABLE 10

General Public (Telephone Sample)
Ratings of Thirteen Mathematical Skills
(Ranking Based on Percentage
Who Rate a Given Skill "Extremely Important")

	All General Public	Minority	Public School Parents	No Children In School	Urban Residents	Suburban Residents	Nonmetro. Residents
	e (97%)	e (95%)	e (99%)	e (96%)	e (99%)	e (98%)	e (95%)
	f (83)	f (83)	f (82)	f (83)	f (84)	f (82)	f (86)
	g (76)	h (82)	g (79)	h (74)	g (73)	h (80)	g (79)
	h (75)	g (76)	h (76)	g (73)	h (71)	g (76)	h (72)
	j (67)	b (66)	j (74)	j (63)	j (67)	j (69)	m (67)
	m (61)	j (66)	m (64)	m (60)	m (56)	m (61)	j (64)
	b (55)	k (59)	b (61)	b (52)	b (53)	b (56)	b (56)
	i (53)	m (59)	i (55)	i (51)	i (52)	i (55)	k (55)
	k (49)	i (55)	k (52)	k (48)	a (46)	k (51)	l (54)
	a (47)	a (48)	l (48)	a (47)	k (43)	a (47)	i (52)
	l (46)	c (46)	a (46)	l (45)	l (40)	l (45)	a (47)
	c (39)	l (40)	c (42)	c (37)	c (36)	c (41)	c (42)
	d (22)	d (27)	d (21)	d (21)	d (24)	d (16)	d (28)
MEAN	59.2%	61.6%	61.5%	57.7%	57.2%	59.8%	61.3%
N =	502	119	176	305	181	176	175

TABLE 10 (continued)

KEY

How important is it for all students to be able to:

a. use a highway map to figure out the distance from one city to another

b. identify a triangle, right angle, square, and sphere

c. understand tables and graphs such as a mileage table or bar graph

d. estimate the chances that an event will occur

e. add, subtract, multiply, and divide whole numbers

f. work with fractions such as one-quarter, one-half, and one-third

g. work with decimals

h. use percentages to compute interest, discounts, and taxes

i. estimate length, weight, and area

j. approximate amounts such as rounding off to the nearest dollar

k. understand and use metric units of measurement as well as customary units of measurement

l. use simple formulas such as area equals length times width

m. find an average such as average temperature and average income had in common. Then we will examine the ratings of all twenty-two objectives included in the education and business communities survey. And finally we will examine variation among groups of educators in their ratings of all twenty-two objectives.

Table 11 on page 35 presents the results for the thirteen items included in both survey instruments. Table 11 compares the results for educators (i.e., the combined responses of teachers, principals, directors of English and Mathematics, superintendents, school committee chairpersons, and other educators), the business community, high school seniors, and the general public. For clarity of presentation, we have included for each group only the percentage of respondents who rate a given item as "extremely important". In other words, we have simply omitted the percentage of respondents who answer "somewhat important", "not too important", "not at all important", or "don't know" to each item. For the reader interested in that information, Appendix B contains the full distribution of responses to all survey questions. Next to each percentage figure we have included the rank of the objective (in parentheses) for that particular group.

Comparing these groups with the general public sample, one can see the results are very similar. Of the thirteen items in common, the top four in terms of percent rating "extremely important" are the same for the education community, business community, students, and general public alike. The four objectives are: 1.) the ability to add, subtract, multiply, and divide whole numbers; 2.) working with simple fractions; 3.) working with decimals; and 4.) using percentages to compute such things as interest, discounts, and taxes. Those objectives deemed least important are also similar, with the ability to estimate the chances that an event will occur lowest among all groups, and the ability to use a highway map, and the ability to use simple formulas also consistently low across all groups.

The major difference between the general public and the other groups is in the overall rating of objectives. As the mean percent scores indicate at the bottom of the thirteen items, the average "extremely important" rating for the general public sample is 59.2%, while the figures for educators, the business community, and students are considerably lower

TABLE 11

Ratings of the Thirteen Items In Common between the Two Survey Instruments (% answering "extremely important")

How important is it for all students to be able to:	General Public	Educators	Business Community	Students
a. use a higway map to figure out the distance from one city to another	47% (10)	28% (12)	20% (12)	22% (12)
b. identify a triangle, right angle, square, and sphere	55% (7)	42% (8)	41% (8)	29% (9)
c. understand tables and graphs such as a mileage table or bar graph	39% (12)	37% (10)	32% (9)	29% (12)
d. estimate the chances that an event will occur	22% (13)	14% (13)	20% (13)	15% (13)
e. add, subtract, multiply, and divide whole numbers	97% (1)	96% (1)	99% (1)	95% (1)
f. work with fractions such as one-quarter, one-half, and one-third	83% (2)	81% (2)	83% (2)	70% (2)
g. work with decimals	76% (3)	76% (3)	82% (3)	64% (4)
h. use pecentages to compute interest, discounts, and taxes	75% (4)	70% (4)	66% (4)	68% (3)
i. estimate length, weight, and area	53% (8)	49% (6)	44% (6)	41% (8)
j. approximate amounts such as rounding off to the nearest dollar	67% (5)	59% (5)	64% (5)	47% (6)
k. understand and use metric units of measurement as well as customary units of measurement	49% (9)	33% (11)	28% (11)	43% (7)
l. use simple formulas such as area equals length times width	46% (11)	37% (9)	30% (10)	22% (11)
m. find an average such as average temperature and average income	61% (6)	44% (7)	43% (7)	51% (5)
MEAN %	59.2%	51.2%	50.2%	45.8%
N	502	1759	123	590

(51.2%, 50.2%, and 45.8% respectively). Thus, while the ranking of objectives is similar between the general public and other major groups included in the survey, the general public, on the average, is somewhat more likely to rate each item as "extremely important" than are the other groups.

Let us now move on to an examination of the full set of twenty-two objectives included in the education and business communities survey. This more complete set of objectives should provide a better understanding of which objectives are viewed as necessary and which are viewed as less important. While it is unfortunate that the general public sample cannot be included in this analysis, the fact that the ranking of objectives among the general public is so similar to the other groups for those items in common, suggests that had they been asked to rate the additional nine objectives, the general public results would likely be similar as well.

Table 12 shows the results on the twenty-two mathematics objectives for educators, business people, and students. Again, we present only the percentage of respondents who rate a given objective as "extemely important", with the rank of the item for that group included in parentheses to the right of each percentage figure.

Overall, Table 12 indicates substantial similarity among these three groups in their ratings of the twenty-two mathematics objectives. Among educators and business community people alike, the following objectives have the greatest number of respondents viewing each as "extremely important":

1. add, subtract, multiply, and divide whole numbers
2. work with fractions such as one-quarter, one-half, and one-third
3. compute the total cost of several items, given the cost per unit
4. work with decimals
5. use percentages to compute interest, discounts, and taxes

Among students the top ranked objectives are virtually the same, with adding, subtracting, multiplying and dividing fractions and mixed numbers fifth, and using percentages just behind it ranked sixth.

TABLE 12

Ratings of the Twenty-two Mathematics Objectives by Educators, Business People, and Students (% answering "extremely important")

How important is it for all students to be able to:	EDUCATORS	BUSINESS COMMUNITY	STUDENTS
a. use a highway map to figure out the distance from one city to another	28% (15)	20 (16)	22 (13)
b. identify a triangle, right angle, square, and sphere	42% (10)	41 (10)	29 (11)
c. understand tables and graphs such as a mileage table or bar graph	37% (11)	32 (12)	29 (12)
d. estimate the chances than an event will occur	14% (19)	20 (17)	15 (17)
e. add, subtract, multiply, and divide whole numbers	96% (1)	99 (1)	95 (1)
f. work with fractions such as one-quarter, one-half, and one-third	81% (2)	83 (2)	70 (2)
g. work with decimals	76% (4)	82 (3)	64 (3)
h. use percentages to compute interest, discounts, and taxes	70% (5)	66 (5)	68 (4)
i. estimate length, weight, and area	49% (7)	44 (8)	41 (10)
j. approximate amounts such as rounding off to the nearest dollar	59% (6)	64 (6)	47 (8)
k. understand and use metric units of measurement as well as customary units of measurement	33% (13)	28 (15)	43 (9)

TABLE 12 (continued)

How important is it for all students to be able to:	EDUCATORS	BUSINESS COMMUNITY	STUDENTS
l. use simple formulas such as area equals length times width	37% (12)	30 (14)	22 (14)
m. find an average such as average temperature and average income	44% (9)	43 (9)	51 (7)
n. work with exponents such as 10^2	4% (22)	8 (22)	7 (22)
o. add, subtract, multiply, and divide fractions and mixed numbers	47% (8)	63 (7)	55 (5)
p. use a variable to represent a number	9% (21)	10 (21)	15 (18)
q. compute the total cost of several items, given the cost per unit	79% (3)	80 (4)	54 (6)
r. identify parallel, perpendicular, and intersecting lines such as those on a street map	31% (14)	34 (11)	20 (15)
s. identify radius, diameter, and center as being parts of circles	25% (16)	30 (13)	12 (19)
t. find the perimeter and area of a triangle, square, and rectangle	24% (17)	16 (18)	12 (20)
u. find the volume of solids such as cubes	11% (20)	10 (20)	9 (21)
v. read scale drawings such as floor plans of a house	21% (18)	14 (19)	20 (16)
MEAN %	41.7%	41.7%	36.3%
N	1759	123	590

On the other hand, Table 12 shows that several proposed objectives are viewed by most people as something less than necessary for all students to have achieved by the time they graduate from high school. Among the state's educators, four of the mathematics objectives are viewed as "extremely important" by fewer than one in five respondents. Those objectives are the following:

1. estimate the chances that an event will occur (14%)
2. find the volume of solids such as cubes (11%)
3. use a variable to represent a number (9%)
4. work with exponents such as 10^2 (4%)

Among business people the following five objectives are seen as "extremely important" by less than 20% of the respondents:

1. find the perimeter and area of a triangle, square, and rectangle (16%)
2. read scale drawings such as floor plans of a house (14%)
3. find the volume of solids such as cubes (10%)
4. use a variable to represent a number (10%)
5. work with exponents such as 10^2 (8)

And finally, among students, fewer than one in five see the following six objectives as necessary:

1. estimate the chances that an event will occur (15%)
2. use a variable to represent a number (15%)
3. identify radius, diameter, and center as being parts of circles (12%)
4. find the perimeter and area of a triangle, square, and rectangle (12%)
5. find the volume of solids such as cubes (9%)
6. work with exponents such as 10^2 (7%)

Examining the overlap in these three lists, one can see three objectives in particular which are viewed as "extremely important" by only a very few respondents in all three groups. Those objectives are working with exponents, finding the volume of solids, and using variables to represent numbers.

Before moving to an examination of differences in the ratings among types of educators, two additional points are noteworthy in Table 12. First, although the ranking of items are strikingly similar among educators, business people, and students alike, one objective does stand out as being ranked considerably more important to students than to educators and the business community. Understanding and using metric as well as customary units of measurement ranks ninth among students, while among educators it ranks thirteenth, and among business people it ranks fifteenth. It appears there is a fairly clear generational difference in terms of the perceived importance of understanding metric measurement. The second point concerns the differences among these three groups in terms of their overall view of the importance of these twenty-two mathematics objectives. The mean percent scores at the bottom of Table 12 indicate that the average "extremely important" rating for educators and business people alike is 41.7%, while for students the figure is 36.3%. Thus, as one might expect, on the average students are somewhat less likely to view each objective as necessary than are educators and business people.

One final analysis on these mathematical objectives concerns differences among types of educators in their rating of the importance of the twenty-two skills included here. Table 13 on page 41 presents the results for the six groups of educators sampled as part of this study. Similar to the way we presented the results among various demographic groups in the general public (see Table 10), the twenty-two objectives are listed at the bottom of Table 13 to serve as a key. Each column of the table shows the results for a given group, with the twenty-two items ranked according to the percentage of respondents who rate a given item as "extremely important".

Table 13 shows clearly what has become a rather familiar pattern; that is, the ratings among groups are very similar. Here, among educators, the top six objectives (i.e. the objectives with the greatest number of respondents viewing each as "extremely important") are the same for all groups! Although the rankings differ slightly among groups on these six objectives, the consistency across groups is striking. The six objectives are the following:

TABLE 13

Ratings of Mathematical Objectives by Type of Educator (% answering "extremely important")

Elementary Teachers	Secondary Teachers	English Directors	Mathematics Directors	Elementary Principals	Secondary Principals	School Superintendents	School Committee Chairpersons
e (95%)	e (99%)	e (94%)	e (95%)	e (97%)	e (95%)	e (93%)	e (98%)
f (80)	f (84)	g (79)	q (89)	g (79)	f (82)	g (83)	f (83)
g (76)	g (80)	f (78)	g (85)	f (78)	g (78)	f (77)	g (77)
q (70)	q (78)	q (74)	f (84)	q (70)	h (76)	q (76)	q (74)
h (68)	h (72)	h (70)	h (75)	h (60)	q (69)	h (68)	h (72)
j (63)	j (59)	j (58)	j (57)	j (57)	j (56)	j (57)	j (70)
i (51)	o (53)	i (46)	o (57)	i (41)	o (53)	i (51)	i (52)
m (50)	i (50)	o (42)	l (51)	m (39)	i (46)	o (45)	b (51)
b (47)	m (44)	m (40)	c (50)	c (36)	m (40)	m (44)	o (49)
o (45)	b (44)	l (38)	i (48)	b (35)	b (36)	b (41)	m (45)
k (36)	k (37)	c (38)	m (44)	o (32)	l (36)	c (38)	k (41)
l (35)	c (36)	r (35)	b (38)	a (29)	c (30)	l (37)	c (41)
c (32)	r (36)	b (33)	k (36)	k (27)	k (24)	r (36)	l (40)
a (29)	l (35)	k (28)	t (33)	r (25)	r (24)	s (31)	a (38)
r (28)	a (29)	a (28)	a (24)	l (23)	a (24)	t (28)	r (32)
s (28)	s (27)	v (24)	s (23)	v (21)	t (23)	k (23)	t (29)
t (21)	v (23)	s (23)	r (22)	t (20)	v (18)	a (23)	s (27)
v (20)	t (20)	t (22)	v (21)	s (20)	s (16)	v (17)	v (24)
d (19)	d (12)	d (19)	u (16)	d (17)	d (11)	u (17)	u (15)
p (9)	p (12)	u (10)	p (11)	u (9)	u (8)	d (14)	d (14)
u (9)	u (10)	p (6)	d (8)	p (8)	p (7)	p (8)	p (11)
n (5)	n (6)	n (4)	n (4)	n (3)	n (2)	n (4)	n (6)
MEAN=41.6%	43.0%	40.4%	44.1%	37.5%	38.8%	41.0%	45.0%
N=322	381	198	215	181	91	191	104

TABLE 13 (continued)

KEY

How important is it for all students to be able to:

a. use a highway map to figure out the distance from one city to another
b. identify a triangle, right angle, square, and sphere
c. understand tables and graphs such as a mileage table or bar graph
d. estimate the chances that an event will occur
e. add, subtract, multiply, and divide whole numbers
f. work with fractions such as one-quarter, one-half, and one-third
g. work with decimals
h. use percentages to compute interest, discounts, and taxes
i. estimate length, weight, and area
j. approximate amounts such as rounding off to the nearest dollar
k. understand and use metric units of measurement as well as customary units of measurement
l. use simple formulas such as area equals length times width
m. find an average such as average temperature and average income
n. work with exponents such as 10^2
o. add, subtract, multiply, and divide fractions and mixed numbers
p. use a variable to represent a number
q. compute the total cost of several items, given the cost per item
r. identify parallel, perpendicular, and intersecting lines such as those on a street map
s. identify radius, diameter, and center as being parts of circles
t. find the perimeter and area of a triangle, square, and rectangle
u. find the volume of solids such as cubes
v. read scale drawings such as floor plans of a house

1. (e) adding, subtracting, multiplying, and dividing whole numbers
2. (q) computing the total cost of several items, given the cost per unit
3. (f) working with simple fractions
4. (g) working with decimals
5. (h) using percentages to compute interest, discounts, and taxes
6. (j) approximating amounts such as rounding off to the nearest dollar

Moreover, an examination of the lower portion of Table 13 indicates that the four lowest objectives for each group (i.e., those objectives with the smallest number of respondents viewing each as "extremely important") are also the same for all groups! These four objectives include the following:

1. (n) working with exponents
2. (p) using a variable to represent a number
3. (v) finding the volume of solids
4. (d) estimating the chances that an event will occur

A closer look at the ratings of the district directors of Mathematics is appropriate here. As the individuals charged with overseeing mathematics curricula, they are closest to a firsthand knowledge of the kinds of mathematical skills needed by students before they graduate from high school. Although this group rates the twenty-two mathematics objectives in pretty much the same fashion as other groups, which is interesting in itself, their expertise in the area merits special attention to their feelings on the subject of which skills are "extremely important" for students to have and which are not. If we look at the top portion of their ratings, we see a consensus among Math directors, as among other groups, in the importance of computations with whole numbers, simple fractions, and decimals, along with using percentages and understanding unit cost. Looking at the bottom portion of their ratings, we also find a consensus, and here the results are critical. Of the 215 directors of Mathematics who returned questionnaires (and keep in mind this represents fully 76% of all directors of Mathematics in the state), only 9 (4%) viewed the ability to work with exponents as "extremely important", only 17 (8%) viewed the ability to estimate the chances that an event will occur as "extremely important"; only 24 (11%) thought using a variable to represent a number is "extremely important", and only 34 (16%) felt the ability to find the volume of solids is "extremely important". Four other objectives were viewed as "extremely important" by less than one in every four directors of Mathematics, but the four just mentioned are by far the least important to a large majority of experts in the field. And the fact that teachers, principals, superintendents, and school committee chairpersons all concur in their ratings of these items only adds strength to the finding.

Summary and Comments

This section has attempted to examine public reaction to twenty-two proposed mathematical skills objectives (thirteen in the case of the general public sample). Overall, the findings indicate a wide variation in public perceptions of the importance of the various skills for all students to have by the time they graduate from high school. Some skills are seen as "extremely important" by an overwhelming majority of those included in the study; others have very little public support as necessary skills. Moreover, using the percentage of respondents answering "extremely important" to a given objective as the measure of the extent to which various groups view that objective as necessary, we are led to conclude that there is a rather clear consensus among the general public, educators, business people, and students as to which skills are necessary and which are not. The five objectives which receive the most widespread and consistent support as being "extremely important" are the following:

1. adding, subtacting, multiplying, and dividing whole numbers
2. computing the total cost of several items, given the cost per unit
3. working with simple fractions
4. working with decimals
5. using percentages to compute interest, discounts, and taxes

All five of these objectives are seen as "extremely important" by more than 60%, on the average, of all respondents.

On the other hand, four objectives stand out for having the least support as being necessary. Moreover, the findings with respect to these four objectives are fairly consistent across all groups. These four items are the following:

1. working with exponents
2. using a variable to represent a number
3. finding the volume of solids
4. estimating the chances that an event will occur

Each of these four objectives are viewed as "extremely important" by fewer than 20% of all respondents.

V

Public Reaction to the Communications Objectives

The Massachusetts Basic Skills Improvement Program calls for the establishment of standards of competency in four areas of human communication: reading, writing, listening, and speaking. This section presents a discussion of public reaction to several proposed basic skills objectives in these four areas.

The survey instrument for the general public sample (telephone survey) included a total of sixteen specific communications skills, which, like for the mathematical skills, respondents were asked to rate as either "extremely important", "somewhat important", "not too important", or "not at all important", for all students to have by the time they graduate from high school.* The distribution of the sixteen items included in the general public survey by the four communications areas is the following: reading skills-----5; writing skills-----4; listening skills-----4; and speaking skills-----3.

The survey instrument for the educators, business community, and student samples (mail survey questionnaire) included all sixteen of the communications objectives which had been included for the general public, plus an additional nine objectives, raising the total communications objectives asked of these groups to twenty-five.** The distribution of the twenty-five items included in the education and business communities survey is the following: reading skills-----10; writing skills-----6; listening skills-----4; and speaking skills-----5.

In the same fashion that we handled the discussion of the mathematics objectives, the strategy here will be to examine the results for the general public survey first, then look at the results for the education and business communities survey.

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* See page 27 for the rationale behind including the word "all" in the question.

** See footnote (**) page 27 for the reasoning behind including fewer items for the general public. The reader may have also noticed that more communications objectives than mathematics objectives were included in both survey instruments. The reason for this is simply that more communications objectives have been proposed, and the instruments were designed, in part, to reflect that difference.

General Public Results

Table 14 shows each of the sixteen communications objectives included in the general public survey divided by area. The entries in Table 14 are the distribution (in percent) of responses to each statement. Because each area is separate and deserves equal weight according to the Massachusetts Basic Skills Improvement Program policy, let's examine them one at a time using the "extremely important" category once again as a way to rank the objectives in terms of importance to the general public.*

Of the five reading objectives in Table 14, all are viewed as "extremely important" skills for students to have by a majority of the general public. The reading skill with the weakest public support concerns having a variety of general library experiences, but even this objective is seen as "extremely important" by 56% of the general public.

The four writing objectives included receive somewhat less overall support from the general public, with the mean "extremely important" rating for the four objectives being 53.8%, as compared to 76.8% for the reading objectives. Moreover, two of the writing objectives----expressing personal experiences in writing, and writing appropriately for different people----are seen as "extremely important" by less than half of the state's residents (44% and 36%, respectively). The other two writing skills----writing knowledgeably and clearly about various subjects, and writing using correct capitalization, punctuation, spelling, and sentence structure----are viewed as "extremely important" by substantial majorities of people (64% and 71%, respectively).

On the average, Table 14 indicates that the four listening skills included receive about the same level of general public support as the writing skills. Two of the four----identifying the main idea and important details of a speech, and drawing conclusions about the implications of a speech----are seen as "extremely important" by about two-thirds of the state's residents. Less support, however, is given to evaluating content, organization, and development of a speech (50%) and judging the speaker's success in creating the intended effect of the speech (40%).

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* See footnote on page 28 for the rationale behind using the "extremely important" category as the measure of public support for the various objectives.

TABLE 14

General Public Ratings of Sixteen Communications Objectives
(Telephone Survey)
N=502

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not too Important	Not at all Important	Don't Know/ No Opinion
READING SKILLS					
a. read and recognize words, and understand the meaning of frequently used words	95%	5	0	0	0
b. read and understand the main idea and important details as stated in a paragraph, article, or book	85%	13	1	0	1
c. read, interpret, and draw conclusions about a paragraph, article, or book	76%	22	2	0	0
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book	72%	24	3	0	2
e. have a variety of library experiences which develop the ability to use library resources for information and pleasure	56%	36	7	1	0
MEAN %	76.8%				
WRITING SKILLS					
f. demonstrate the ability to write knowledgeably and clearly about various subjects	64%	31	4	0	1
g. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure	71%	25	4	1	0

TABLE 14 (continued)

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not too Important	Not at all Important	Don't Know/ No Opinion
WRITING SKILLS (continued)					
h. demonstrate the ability to express personal experiences in writing.	44%	45	9	2	0
i. demonstrate the ability to write appropriately for different people	36%	47	11	2	4
MEAN %	53.8%				
LISTENING SKILLS					
j. listen to a speaker and evaluate content, organization, and development of the speech	50%	39	10	1	0
k. listen to a speaker and judge whether or not the speaker was successful in creating his intended mood or effect of the speech	40%	45	13	1	1
l. listen to a speaker and identify the main idea and important details of the speech	68%	28	3	0	0
m. listen to a speaker and draw conclusions about implications of the main ideas of the speech	64%	33	3	0	0
MEAN %	55.5%				

TABLE 14 (continued)

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not too Important	Not at all Important	Don't Know No Opinion
SPEAKING SKILLS					
n. demonstrate the ability to speak clearly and logically when relating a story or requesting general information	77%	21	2	0	0
o. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener	40%	41	14	4	2
p. demonstrate the ability to speak persuasively by supporting statements with evidence	60%	31	6	1	2
MEAN %	59.0%				

Finally, Table 14 shows that the overall general public reaction to the three speaking skills included is very similar to both the writing and listening skills, all of which do not receive the same level of public support for their importance as do the reading skills. Among the three speaking skills, both the ability to speak clearly and logically when relating a story or requesting general information and the ability to speak persuasively by supporting statements with evidence are seen by most as being "extremely important", (77% and 60%, respectively). However, the third item----changing voice tone and vocabulary depending upon purpose and listener----is viewed as "extremely important" by substantially fewer people (40%).

Table 15 on page 52 presents the general public results, broken down by various demographic categories. The sixteen communications objectives are listed at the bottom, as a key to the entries in the table. The body of the table is divided into the four communications areas. Each column shows the results for a given demographic group, with the objectives within each area ranked according to the percentage of respondents who rate a given item as "extremely important". The actual percentage is included in parentheses.

As was the case for the mathematics objectives, Table 15 shows very little differences among various demographic groups in their ratings of the communications objectives. Indeed, here, within each communications area, each demographic group has precisely the same ranking of objectives. The only variation among demographic groups occurs in the degree of support for various objectives. Looking first at the reading objectives, one can see virtually no differences among the demographic groupings in the percentage of respondents who rate the objectives as "extremely important". Library experiences rank lowest among all groups, but, again, all groups show a majority rating of each of the reading objectives as "extremely important".

Among the writing objectives in Table 15, the results show that minority group respondents give considerably more support to these four writing skills than do other demographic groups included in Table 15. On the average, the "extremely important" rating among minorities is about ten percentage points higher than other groups. Among all groups, expressing personal experiences in writing and writing appropriately for different people rank lowest.

TABLE 15

General Public (Telephone Sample) Ratings of Sixteen Communications Skills by Area (Ranking Based on Percentage Who Rate a Given Skill "Extremely Important")

	All General Public	Minority	Public School Parents	No children in School	Urban Residents	Suburban Residents	Nonmetro. Residents
	READING SKILLS						
	a (95%)	a (92%)	a (96%)	a (94%)	a (96%)	a (94%)	a (95%)
	b (85%)	b (86%)	b (86%)	b (84%)	b (85%)	b (83%)	b (89%)
	c (76%)	c (79%)	c (76%)	c (75%)	c (77%)	c (72%)	c (81%)
	d (72%)	d (73%)	d (76%)	d (69%)	d (70%)	d (71%)	d (75%)
	e (56%)	e (56%)	e (59%)	e (53%)	e (58%)	e (52%)	e (58%)
MEAN	76.8%	77.2%	78.6%	75.0%	77.2%	74.4%	79.6%
	WRITING SKILLS						
	g (71%)	g (79%)	g (70%)	g (70%)	g (73%)	g (67%)	g (71%)
	f (64%)	f (78%)	f (65%)	f (64%)	f (66%)	f (63%)	f (67%)
	h (44%)	h (53%)	h (37%)	h (47%)	h (44%)	h (41%)	h (47%)
	i (36%)	i (49%)	i (30%)	i (39%)	i (35%)	i (34%)	i (42%)
MEAN	53.8%	64.8%	50.5%	55.0%	54.5%	51.3%	56.8%
	LISTENING SKILLS						
	l (68%)	l (73%)	l (70%)	l (67%)	l (64%)	l (68%)	l (72%)
	m (64%)	m (68%)	m (62%)	m (65%)	m (60%)	m (67%)	m (67%)
	j (50%)	j (57%)	j (44%)	j (53%)	j (46%)	j (48%)	j (56%)
	k (40%)	k (51%)	k (37%)	k (42%)	k (38%)	k (42%)	k (38%)
MEAN	55.5%	62.3%	53.3%	56.8%	52.0%	56.3%	57.8%
	SPEAKING SKILLS						
	n (77%)	n (76%)	n (82%)	n (73%)	n (79%)	n (78%)	n (73%)
	p (60%)	p (70%)	p (57%)	p (62%)	p (58%)	p (60%)	p (64%)
	o (40%)	o (52%)	o (36%	o (43%)	o (44%)	o (39%)	o (34%)
MEAN	59.0%	66.0%	58.3%	59.3%	60.3%	59.0%	57.0%
N=	502	119	176	306	181	176	125

TABLE 15 (continued)

KEY

How important is it for all students to be able to:

READING SKILLS

a. read and recognize words, and understand the meaning of frequently used words
b. read and understand the main idea and important details as stated in a paragraph, article, or book
c. read, interpret, and draw conclusions about a paragraph, article, or book
d. read and make judgments about ideas by recognizing what is fact, faction, and opinion in a paragraph, article, or book
e. have had a variety of library experiences which develop the ability to use library resources for information and pleasure

WRITING SKILLS

f. demonstrate the ability to write knowledgeably and clearly about various subjects
g. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure
h. demonstrate the ability to express personal experiences in writing
i. demonstrate the ability to write appropriately for different people

LISTENING SKILLS

j. listen to a speaker and evaluate content, organization, and development of the speech
k. listen to a speaker and judge whether or not the speaker was successful in creating his intended mood or effect of the speech
l. listen to a speaker and identify the main idea and important details of the speech
m. listen to a speaker and draw conclusions about the implications of the main ideas of the speech

SPEAKING SKILLS

n. demonstrate the ability to speak clearly and logically when relating a story or requesting general information
o. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener
p. demonstrate the ability to speak persuasively by supporting statements with evidence

Both listening objectives and speaking objectives look very similar to the distribution for writing objectives. With the exception of speaking clearly and logically, minority group respondents give each objective a higher "extremely important" rating than do the other groups. Among all demographic groups, however, judging whether a speaker has successfully created the intended effect of the speech is lowest of the listening objectives, and changing voice tone and vocabulary depending on purpose and listener is lowest of the speaking objectives.

Education and Business Communities Results

Given the fact that the educators, students, and business people were asked to rate the importance of nine additional communications objectives, we run into the same problems of comparison with the general public as we did for the mathematics objectives. Thus, our strategy here will be the same. First, the education and business community results will be compared with the general public results for those sixteen items that the two instruments had in common. Then we will examine the ratings of all twenty-five objectives divided by area of communications for the education and business communities survey. And finally, we will examine the differences among groups of educators in their ratings of all twenty-five communications objectives.

Table 16 on page 55 presents the results for the sixteen items included in both survey instruments. The table compares the findings for the general public with business community members, students, and educators (with educators including the combined responses of teachers, principals, directors of English and Mathematics, superintendents, school committee chairpersons, and other educators). For clarity of presentation, we have included for each group only the percentage of respondents who rate a given item as "extremely important" (Appendix B contains the full distribution of responses to all survey questions). Next to each percentage figure we have included the rank of the objective (in parentheses) within a given communications area for that particular group.

Keeping in mind that our interest here is primarily an overall comparison of the three "special publics" with the

TABLE 16

Comparing the Sixteen Communications Items
in Common Between the General
Public Survey and the Survey of
the Education and Business Communities
(% answering "extremely important")

How important is it for all students to be able to:	General Public	Educators	Business Community	Students
READING SKILLS				
a. read and recognize words, and understand the meaning of frequently used words	95% (1)	97% (1)	98% (1)	94% (1)
b. read and understand the main idea and important details as stated in a paragraph, article, or book	85% (2)	92% (2)	89% (2)	83% (2)
c. read, interpret, and draw conclusions about a paragraph, article, or book	76% (3)	75% (3)	63% (4)	75% (3)
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book	72% (4)	72% (4)	66% (3)	56% (4)
e. have a variety of library experiences which develop the ability to use library resources for information and pleasure	56% (5)	50% (5)	42% (5)	39% (5)
MEAN %	76.8%	77.2%	71.6%	69.4%
WRITING SKILLS				
f. demonstrate the ability to write knowledgeably and clearly about various subjects	64% (2)	51% (3)	61% (2)	62% (2)
g. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure	71% (1)	82% (1)	73% (1)	85% (1)
h. demonstrate the ability to express personal experiences in writing	44% (3)	52% (2)	52% (3)	48% (3)
i. demonstrate the ability to write appropriately for different people	36% (4)	27% (4)	24% (4)	32% (4)
MEAN	53.8%	53.0%	52.5%	56.8%

TABLE 16 (continued)

How important is it for all students to be able to:	General Public	Educators	Business Community	Students
LISTENING SKILLS				
j. listen to a speaker and evaluate content, organization, and development of the speech	50% (3)	32% (3)	30% (3)	41% (3)
k. listen to a speaker and judge whether or not the speaker was successful in creating his intended mood or effect of the speech	40% (4)	14% (4)	11% (4)	21% (4)
l. listen to a speaker and identify the main idea and important details of the speech	68% (1)	60% (1)	61% (1)	59% (1)
m. listen to a speaker and draw conclusions about implications of the main ideas of the speech	64% (2)	50% (2)	46% (2)	44% (2)
MEAN %	55.5%	39.0%	37.0%	41.3%
SPEAKING SKILLS				
n. demonstrate the ability to speak clearly and logically when relating a story or requesting general information	77% (1)	66% (1)	70% (1)	69% (1)
o. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener	40% (3)	20% (3)	19% (3)	33% (3)
p. demonstrate the ability to speak persuasively by supporting statements with evidence	60% (2)	36% (2)	41% (2)	51% (2)
MEAN %	59.0%	40.7%	43.3%	51.0%

general public, an overall look at Table 16 indicates that the results for the education and business communities are strikingly similar with the exception of the level of support, particularly for the listening and speaking objectives. The ranking of objectives within the four communications areas are virtually the same for all four groups, with the following ranked lowest regardless of group:

Reading----general library experiences
Writing----writing appropriately for different people
Listening--judging a speaker's success in creating the intended effect
Speaking---changing voice tone and vocabulary depending upon purpose and listener

In terms of the level of support for the objectives, the mean percentage of those who rate the items "extremely important" is included in Table 16 at the bottom of each group. For the reading objectives there is virtually no difference between the general public and educators,but the results do show that both of these groups are somewhat more supportive of the reading objectives overall than are business people and students. For the writing objectives in common, one can see virtually no differences in the overall level of support between the general public and the other groups. For both the listening and speaking skills in common between instruments, however, we do see a substantial difference in level of support, with a larger proportion of the general public rating each objective as "extremely important" than any of the other three groups. These results for the listening and speaking objectives in common reflect a pattern similar to that for the mathematics objectives in common between the two instruments. The deviation in the pattern for the reading and writing objectives in common indicates greater consensus of opinion on these skills among the various "publics" in the Commonwealth.

We turn now to the examination of the full set of twenty-five objectives included in the survey of educators, business people, and students. To repeat what we mentioned at the same stage of analysis in the mathematics section, this more complete set of objectives should provide a better understanding of which objectives are viewed as necessary and which are viewed as less important. The reason for this is simply that we provided these groups with more objectives, giving them a wider range from which to choose. Moreover, even though it is unfortunate that the general public sample cannot be included in the remainder of the analysis, the fact that their ranking of objectives in common is so similar to the other groups suggests that had they been asked to rate the additional nine communications objectives, those results would be similar as well. This is ultimately, of course, an empirical question, but, given the pattern of results in common, we feel it is not an unwarranted assumption.

Table 17 shows the results on the twenty-five communications objectives divided by the four areas for educators, the business community and students. Again, we present only the percentage of respondents who rate a given objective as "extremely important", with the rank of the item within each communications area included in parentheses to the right of each percentage figure.

As one would expect, given the pattern of results we have examined throughout this study, there is close similarity among these three groups in their ratings of objectives within the four areas of communications. Among the ten reading objectives, the four with the highest percentage of respondents in all these groups viewing each as "extremely important" are the following:

1. (a) read and recognize words, and understand the meaning of frequently used words
2. (b) read and understand the main idea and important details as stated in a paragraph, article, or book
3. (c) read, interpret, and draw conclusions about a paragraph, article, or book
4. (d) read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book

The importance of these four reading skills seems to be substantially agreed upon by educators, the business community, and students alike. Focusing on those reading objectives which receive the least public support, the following three skills are seen as "extremely important" by less than one-third of the

TABLE 17

Ratings of the Twenty-five Communications Objectives by Educators, Business People, and Students (% answering "extremely important")

How important is it for all students to be able to:	EDUCATORS (N= 1759)	BUSINESS COMMUNITY (N= 133)	STUDENTS (N= 590)
READING SKILLS			
a. read and recognize words, and understand the meaning of frequently used words	97% (1)	98% (1)	94% (1)
b. read and understand the main idea and important details as stated in a paragraph, article, or book	92% (2)	89% (2)	83% (2)
c. read, interpret, and draw conclusions about a paragraph, article, or book	75% (3)	63% (4)	75% (3)
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book	72% (4)	66% (3)	56% (4)
e. recognize the components of words such as roots, affixes, and variants	22% (10)	22% (10)	20% (10)
f. read and understand explicit meanings of charts, maps, and graphs	32% (8)	25% (9)	27% (7)
g. translate expressions such as "he is all ears" into their literal meanings	25% (9)	29% (8)	25% (9)
h. read and recognize methods of presentation such as propaganda techniques and rhetorical techniques	41% (7)	33% (7)	25% (8)
i. have had exposure to a variety of reading experiences designed to develop personal values	57% (5)	54% (5)	47% (5)
j. have had a variety of library experiences which develop the ability to use library resources for information and pleasure	50% (6)	42% (6)	39% (6)
MEAN %	56.3%	52.1%	49.1%
WRITING SKILLS			
k. demonstrate the ability to write knowledgeably and clearly about various subjects	51% (4)	61% (2)	62% (3)

TABLE 17 (continued)

How important is it for all students to be able to:	EDUCATORS (N= 1759)	BUSINESS COMMUNITY (N= 123)	STUDENTS (N= 590)
WRITING SKILLS (continued)			
m. demonstrate the ability express personal experiences in writing	52% (3)	52% (3)	48% (4)
n. demonstrate the ability to write appropriately for different people	27% (5)	24% (6)	32% (5)
o. demonstrate the ability to write formal business letters and application forms	62% (2)	47% (4)	64% (2)
p. demonstrate the ability to condense information into outline or synopsis form	26% (6)	30% (5)	24% (6)
q. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure	82% (1)	73% (1)	85% (1)
MEAN %	50.0%	47.8%	52.5%
LISTENING SKILLS			
r. listen to a speaker and evaluate content, organization, and development of the speech	32% (3)	30% (3)	41% (3)
s. listen to a speaker and judge whether or not the speaker was successful in creating the intended mood or effect of the speech	14% (4)	11% (4)	21% (4)
t. listen to a speaker and identify the main idea and important details of the speech	60% (1)	61% (1)	59% (1)
u. listen to a speaker and draw conclusions about the implications of the main ideas of the speech	50% (2)	46% (2)	44% (2)
MEAN %	39.0%	37.0%	41.3%
SPEAKING SKILLS			
v. demonstrate the ability to speak clearly and logically when relating a story or requesting general information	66% (1)	70% (1)	69% (1)
w. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener	20% (5)	19% (5)	33% (5)

TABLE 17 (continued)

How important is it for all students to be able to:	EDUCATORS (N= 1759)	BUSINESS COMMUNITY (N= 123)	STUDENTS (N= 590)
SPEAKING SKILLS (continued)			
x. demonstrate the ability to speak persuasively by supporting statements with evidence	36% (3)	41% (3)	51% (3)
y. demonstrate the ability to express orally one's personal values and opinions	61% (2)	63% (2)	62% (2)
z. demonstrate the ability to ask for crit[illegible] evaluations and opinions from others	31% (4)	41% (4)	41% (4)
MEAN %	42.8%	46.8%	51.2%

respondents in all three groups:

1. recognize the components of words such as roots, affixes, and variants
2. translate expressions such as "he is all ears" into their literal meanings
3. read and understand explicit meanings of charts, maps, and graphs

A fourth reading objective---read and recognize methods of presentation such as propaganda techniques and rhetorical techniques---also gets a particularly low "extremely important" rating among students and the business community (25% and 33% respectively), although it is slightly higher among educators (41%). On the average, the tendency is for educators to rate the ten reading objectives higher than either business people or students.

Of the six writing objectives, Table 17 indicates that the highest rated one among all three groups is the ability to write using correct capitalization, punctuation, spelling, and sentence structure. At the same time, two writing skills are viewed as "extremely important" by fewer than one-third of the respondents in all groups. Those are the following:

1. condense information into outline or synopsis form
2. write appropriately for different people

As the mean percent "extremely important" indicates, there is virtually no difference among the three groups in the overall rating of writing skills.

Turning to the four listening objectives, Table 17 shows that the highest rated for all three groups is the ability to listen to a speaker and identify the main idea and important details of the speech. Significantly fewer than one-quarter of the respondents in all three groups, however, see the ability to judge the speaker's success in creating the intended effect of the speech as "extremely important", and only about one in every three educators and business people think the ability to evaluate content, organization, and development of a speech is "extremely important". Like the writing objectives, there is virtually no difference among the three groups in the average rating of the four listening objectives.

The five speaking objectives include two which are substantially agreed upon by educators, business people, and students as being "extremely important" skills for students to have by the time they graduate from high school. Those are the ability to express orally one's personal values and opinions and the ability to speak clearly and logically when relating a story or requesting general information. Lowest of the five speaking objectives is the ability to change voice tone and vocabulary depending upon purpose and listener, which is seen as "extremely important" by fewer than one out of three respondents in all groups. Overall, the mean percentage figure indicates that students are significantly higher in their average rating of these speaking objectives (51.2%), than are either the business community (46.8%) or educators (42.8%)

One final comment with respect to Table 17 concerns the average rating among the four area of communication for each of the three groups---educators, business people, and students. As the mean percent figures indicate, the educators give the highest average rating to the reading objectives (56.3%); followed by the writing objectives (50%), then the speaking and listening objectives (42.8% and 39% respectively). The business community members surveyed also give the highest average rating to the reading objectives (52.1%), with both writing and speaking somewhat lower at 47.8% and 46.8% respectively, and the listening objectives lowest at 37%. Among students, reading, writing, and speaking objectives are rated at approximately the same level (49.1%, 52.5%, and 51.2% respectively), with the listening objectives rated somewhat lower, on the average, at 41.3%.

One final analysis involves differences among educators in their ratings of the twenty-five communications objectives. Table 18 presents the results for the six groups of educators sampled as part of this study. Similar to the way we presented the communications results among the various demographic groups in the general public (see Table 15), the twenty-five objectives are listed at the bottom of Table 18 to serve as a key. Each column of the table shows the results for a given group, with the objectives in each of the four areas ranked according to the percentage of respondents who rate a given item as "extremely important".

As Table 18 clearly indicates, the rankings among all groups is very similar for each of the four areas of communication.

TABLE 18

Rating of Communications Objectives by Type of Educator

(% answering "extremely important")

	Elementary Teachers	Secondary Teachers	English Directors	Mathematics Directors	Elementary Principals	Secondary Principals	School Superin-tendents	School Committee Chair-persons
				READING SKILLS				
	a (97%)	a (97%)	a (98%)	a (95%)	a (99%)	a (96%)	a (96%)	a (97%)
	b (93%)	b (93%)	b (87%)	b (90%)	b (95%)	b (88%)	b (91%)	b (92%)
	c (74%)	c (74%)	c (74%)	c (71%)	c (83%)	d (73%)	c (74%)	c (66%)
	d (73%)	d (74%)	d (73%)	d (66%)	d (78%)	c (68%)	d (70%)	d (62%)
	i (57%)	i (57%)	i (57%)	i (48%)	i (57%)	i (47%)	i (55%)	i (57%)
	j (52%)	j (52%)	j (42%)	j (42%)	j (52%)	j (41%)	j (50%)	j (44%)
	h (40%)	h (43%)	h (42%)	f (39%)	h (40%)	h (37%)	h (41%)	h (38%)
	e (34%)	f (29%)	f (36%)	h (33%)	f (30%)	f (28%)	f (35%)	f (32%)
	f (32%)	g (25%)	g (24%)	g (21%)	e (25%)	g (28%)	g (20%)	g (27%)
	g (29%)	e (23%)	e (18%)	e (9%)	g (24%)	e (14%)	e (20%)	e (20%)
MEAN%	58.2%	56.7%	55.1%	51.4%	58.3%	52.0%	55.2%	53.5%
				WRITING SKILLS				
	q (90%)	q (78%)	q (71%)	q (75%)	q (85%)	q (79%)	q (79%)	q (77%)
	o (70%)	o (63%)	o (58%)	o (54%)	o (59%)	o (68%)	o (63%)	o (61%)
	k (56%)	k (51%)	m (55%)	m (47%)	m (54%)	m (57%)	k (54%)	m (54%)
	m (53%)	m (49%)	k (50%)	k (42%)	k (52%)	k (49%)	m (53%)	k (45%)
	p (32%)	p (28%)	n (32%)	n (20%)	n (25%)	p (26%)	n (31%)	p (28%)
	n (31%)	n (26%)	p (23%)	p (18%)	p (23%)	n (21%)	p (24%)	n (23%)
MEAN%	55.3%	49.1%	48.2%	42.7%	49.7%	50.0%	50.7%	48.0%
				LISTENING SKILLS				
	t (62%)	t (60%)	t (70%)	t (53%)	t (53%)	t (56%)	t (60%)	t (61%)
	u (55%)	u (51%)	u (56%)	u (39%)	u (44%)	u (49%)	u (50%)	u (44%)

TABLE 18 (continued)

	Elementary Teachers	Secondary Teachers	English Directors	Mathematics Directors	Elementary Principals	Secondary Principals	School Superintendents	School Committee Chairpersons
	LISTENING SKILLS (continued)							
	r (35%)	r (29%)	r (42%)	r (23%)	r (32%)	r (33%)	r (36%)	r (26%)
	s (15%)	s (13%)	s (18%)	s (9%)	s (13%)	s (13%)	s (13%)	s (11%)
MEAN %	41.8%	38.3%	46.5%	31.0%	35.5%	37.8%	39.8%	35.5%
	SPEAKING SKILLS							
	v (72%)	v (69%)	v (69%)	v (58%)	v (63%)	v (68%)	v (58%)	v (70%)
	y (65%)	y (66%)	y (64%)	y (52%)	y (62%)	y (57%)	y (57%)	y (60%)
	x (41%)	x (37%)	x (44%)	x (25%)	x (34%)	x (36%)	z (28%)	x (32%)
	z (36%)	z (32%)	z (31%)	z (23%)	z (29%)	z (29%)	x (27%)	z (31%)
	w (28%)	w (20%)	w (21%)	w (13%)	w (21%)	w (16%)	w (13%)	w (18%)
MEAN %	48.4%	44.8%	45.8%	34.6%	41.8%	41.2%	36.6%	42.2%

How important is it for all students to be able to:

READING SKILLS

a. read and recognize words, and understand the meaning of frequently used words
b. read and understand the main idea and important details as stated in a paragraph, article or book
c. read, interpret, and draw conclusions about a paragraph, article, or book
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book

TABLE 18 (continued)

How important is it for all students to be able to:

READING SKILLS

e. recognize the components of words such as roots, affixes, and variants
f. read and understand explicit meanings of charts, maps, and graphs
g. translate expressions such as "he is all ears" into their literal meanings
h. read and recognize methods of presentation such as propaganda techniques and rhetorical techniques
i. have had exposure to a variety of reading experiences designed to develop personal values
j. have had a variety of library experiences which develop the ability to use library resources for information and pleasure

WRITING SKILLS

k. demonstrate the ability to write knowledgeably and clearly about various subjects
m. demonstrate the ability to express personal experiences in writing
n. demonstrate the ability to write appropriately for different people
o. demonstrate the ability to write formal business letters and application forms
p. demonstrate the ability to condense information into outline or synopsis form
q. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure

LISTENING SKILLS

r. listen to a speaker and evaluate content, organization, and development of the speech
s. listen to a speaker and judge whether or not the speaker was successful in creating the intended mood or effect of the speech
t. listen to a speaker and identify the main idea and important details of the speech
u. listen to a speaker and draw conclusions about the implications of the main ideas of the speech

SPEAKING SKILLS

v. demonstrate the ability to speak clearly and logically when relating a story or requesting general information
w. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener
x. demonstrate the ability to speak persuasively by supporting statements with evidence
y. demonstrate the ability to express orally one's personal values and opinions
z. demonstrate the ability to ask for critical evaluations and opinions from others

In fact, the rankings of the items within each area are virtually the same across each of the six groups of educators. Even directors of English, those charged with the responsibility for overseeing English curricula at the district level, view the importance of these twenty-five items in essentially the same way as all other groups. The only significant difference among the groups in Table 18 concerns the overall level of the ratings as indicated by the mean percent scores at the bottom of each of the four areas for each group. For reading skills, elementary teachers and elementary principals have the highest average "extremely important" rating for the ten objectives (58.2% and 58.3% respectively), while secondary principals and Math directors have the lowest (52% and 51.4% respectively). For both writing and speaking skills, elementary teachers are again the highest with Math directors lowest. And for listening skills, English directors offer the highest overall ratings (46.5%), with, again, Math directors lowest (31.0%).

Summary and Comments

This section has examined public reactions to a total of twenty-five proposed basic skills objectives in the area of reading, writing, listening and speaking. As was the case for the findings presented for the mathematics objectives, the overall findings here indicate clear variation among the various skills in terms of the proportion of people who view them as "extremely important" for all students to have by the time they graduate from high school. Some skills are seen as "extremely important" by an overwhelming majority of those surveyed; others have little public support as necessary skills. Moreover, again using the percentage of people answering "extremely important" to a given objective as the measure of the extent to which various people view that objective as necessary, we are led to conclude, as we did for the mathematics objectives, that there is a fairly clear consensus among the general public, educators, business people, and students alike as to which skills are necessary and which are not. The primary difference between the results for mathematics and communications skills concerns the overall level of public support for the various objectives. In general, the findings indicate a higher average "extremely important" rating for communications skills than for mathematics skills. While four of the mathematics objectives receive an "extremely important" rating by fewer than 20% of the respondents, only one communications objective falls below that level (that is, judging the speakers success in creating the intended effect of the speech). By area of communication, the objectives which receive the most widespread and consistent support as being "extremely important" are the following:

READING

1. (a.) read and recognize words, and understand the meaning of frequently used words
2. (b.) read and understand the main idea and important details as stated in a paragraph, article, or book
3. (c.) read, interpret, and draw conclusions about a paragraph, article, or book
4. (d.) read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book

WRITING

1. (q.) demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure
2. (o.) demonstrate the ability to write formal business letters and application forms

LISTENING

1. (t.) listen to a speaker and identify the main idea and important details of the speech

SPEAKING

1. (v.) demonstrate the ability to speak clearly and logically when relating a story or requesting general information.

On the other hand, several communications objectives stand out for having little public support as being necessary. And like the other findings, these results with respect to the least supported objectives are consistent across all groups included in the study with, on the average, less than one-quarter to one-third of the respondents viewing these skills as "extremely important". They are as follows:

READING

1. (e.) recognize the components of words such as roots, affixes, and variants
2. (g.) translate expressions such as "he is all ears" into their literal meanings

WRITING

1. (p.) demonstrate the ability to condense information into outline or synopsis form
2. (n.) demonstrate the ability to write appropriately for different people

LISTENING

1. (s.) listen to a speaker and judge whether or not the speaker was successful in creating the intended mood or effect of the speech

SPEAKING

1. (w.) demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener

VI

Summary and Conclusions

This examination of public reactions to the proposed objectives for the Massachusetts Basic Skills Improvement Policy has yielded a considerable amount of information about the public's perspective on this important educational policy. In summarizing the results presented two sets of findings tend to stand out. The first concerns public opinion on the overall concept of basic skills improvement. Here, the analysis of responses to three survey questions included at the beginning of both the telephone interview schedule and the mail survey questionnaire leads to the following conclusions:

1.) There exists a widespread belief throughout the Commonwealth that significant numbers of students are graduating from Massachusetts public high schools without sufficient skills to handle everyday problems.
2.) There is widespread public support for the notion that the best way to determine if students are learning necessary skills is through periodic examinations designed to test those skills.
3.) There is overwhelming support for the notion that all students should be able to demonstrate certain minimum skills by the time they graduate from high school.

Questions about the more specific aspects and guidelines of the policy were not included in the survey, so we have no evidence on public opinion toward such aspects as the timetable for implementation, standards to be set, grade levels to be tested, and the like. The evidence we did collect, however, does suggest widespread public support for the concept which underlies the Massachusetts Basic Skills Improvement Policy.

The second set of findings which tends to stand out concerns public reaction to the proposed basic skills objectives which are being established as part of the new program. Here, the analysis of several survey items designed to tap public perception of the importance of various mathematics and communication skills for all students to have by the time they graduate from high school leads to the following two general conclusions. The first is that the public (defined as educators, business people, students as well as the general public at large) differentiates fairly clearly between those skills which they see as "extremely important" and those they view as less important for students to have. The second is that the findings with respect to the perceived importance of various objectives is rather strikingly consistent across all demographic and other groups included in the study. That is, all groups examined tend to view the objectives presented to them in essentially the same way.

Perhaps the best way to summarize the public's reaction to the proposed mathematics and communications objectives is to focus on those items on which there seems to be a public consensus as to the importance of the skill for all students to have. For mathematics, there are five objectives which are seen as "extremely important" by an overwhelming majority of educators, business people, students, and the general public at large. Those five, which include primarily basic computational skills with numbers, are the following:

1. adding, subtracting, multiplying, and dividing whole numbers
2. computing the total cost of several items, given the cost per unit
3. working with simple fractions such as one-quarter, one-half, and one-third
4. working with decimals
5. using percentages to compute interest, discounts, and taxes

On the other hand, there are four mathematics objectives which seem to stand out for having the least support as being necessary, and there is a consensus among various groups on these as well. They are as follows:

1. working with exponents
2. using a variable to represent a number
3. finding the volume of solids
4. estimating the chances that an event will occur

The five highest mathematics objectives in terms of public support receive an "extremely important" rating from more than 60% of all respondents, while the four lowest mathematics objectives are seen as "extremely important" by fewer than 20% of all respondents. The remaining thirteen math objectives lie between these two extremes in terms of public support.

Among the communications objectives, which on the average received a higher "extremely important" rating among the public than did the mathematics objectives, there are eight objectives which appear to be widely viewed as necessary. These objectives, which are viewed as "extremely important" by more than 60% of all respondents, are the following:

READING
1. reading and recognizing words, and understanding the meaning of frequently used words
2. reading and understanding the main idea and important details as stated in a paragraph, article, or book
3. reading, interpreting, and drawing conclusions about a paragraph, article, or book
4. reading and making judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book

WRITING
1. writing using correct capitalization, punctuation, spelling, and sentence structure
2. writing formal business letters and application forms

LISTENING
1. listening to a speaker and identifying the main idea and important details of the speech

SPEAKING
1. speaking clearly and logically when relating a story or requesting general information

At the same time there are six communications objectives which are viewed as "extremely important" by only a small minority of the public (i.e., less than 25% of all respondents), with the results, again, very consistent across all groups included in the study. Those six objectives are the following:

READING
1. recognizing the components of words such as roots, affixes, and variants
2. translating expressions such as "he is all ears" into their literal meanings

WRITING
1. condensing information into outline or synopsis form
2. writing appropriately for different people

LISTENING
1. listening to a speaker and judging whether or not the speaker was successful in creating the intended mood or effect of the speech

SPEAKING
1. changing voice tone and vocabulary depending upon purpose and listener

The remaining eleven communications objectives lie between these two extremes in terms of public support.

In terms of the decision-making process for the establishment of the Massachusetts Basic Skills Improvement Policy, the purpose of this research has been to arm decision-makers with the public perspective on the concept of basic skills improvement and on the importance of various proposed basic skills objectives. And with respect to those objectives, the information presented here can be used to either maintain an objective as it stands, modify it as deemed necessary, or exclude it outright as being less than a necessary skill for students to have by the time they complete high school.

We would like to point **out** that the major advantage of such research is that it provides systematic public input into the policy-making process. By designing the samples to be representative of various relevant "publics" in the Commonwealth, we have attempted to provide a systematic look at the public perspective. Moreover, we have concluded that the evidence collected and discussed here suggests the public perspective is relatively clear.

At the same time we caution the reader about the place of public opinion surveys in the decision-making process. For while we feel that systematic public input is critical to the decision-making process, we emphasize the notion that public opinion is only one element to be considered in that process. In making decisions policy-makers must balance what they judge to be in the best interest of the public with what the public says it wants. Where there is no conflict between these two things, decision-making is easier. Where there is a conflict, however, it is the responsibility of decision-makers to weigh the merits of the public perspectives against their own perspectives, and here decision-making becomes considerably more problematic. We say this because we feel it is important that public opinion research be utilized for what it is, systematic public input which should be used in the decision-making process as one critical component of that process. It should not, however, be used as the only component.

That the Massachusetts public is concerned with the notion of basic skills improvement is clearly evidenced by this study. This fact comes through not only by analyzing the nature of their responses to survey questions, but through the overall high level of public cooperation and participation in the survey. The success of the research is in a very large measure due to this public interest and concern with the issue of public education in the Commonwealth.

APPENDIX A

An Analysis of Written Comments Made by Educators, the Business Community, and Students

Prepared by Sylvia A. Montigny

The survey instrument designed for educators, the business community, and students included a space for the respondent's comments. This section includes an overview of those comments as well as a sample of verbatim responses divided by type of respondent.

Of the 1882 questionnaires returned in the mail survey of educators and the business community, 30% contained comments. Interestingly, the student survey yielded an even higher comment rate, with 39% of the 590 students surveyed including a comment. Among educators, school committee chairpersons and school superintendents commented equally, with 35% of their questionnaires containing written responses. The lowest comment response rate, 25%, came from principals. The comment rate of other educators surveyed was the following: teachers--33%; directors of English--29%; and directors of Mathematics--27%.

In general, most comments tended to focus on the importance of improving the quality of education in Massachusetts. A total of 16%* noted that improving basic skills was absolutely essential for all students. Nearly one in every four comments, however, expressed concern for special needs students, claiming it would be impossible for these students to meet the required standards of competency testing. Such a concern among those who wrote comments is probably in part due to the survey instrument itself which asked respondents to rate the importance of various skills for all students to have before they graduate from high school. Nine percent were concerned with the implementation process, while 11% worried about the implications of testing, i.e., teaching to the test and lowering student goals. Other respondents used the comment section to vent frustration and dissatisfaction with the present system.

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*All percentage results included in this section refer to the percentage of commentators, not to the total number of respondents in the survey. Thus, 16% means 16% of the 30% who did include written comments on their questionnaires.

Turning to the comments of various groups, among school committee chairpersons, 36% of those who commented considered the Basic Skills Improvement Policy to be absolutely necessary. Thirty-one percent expressed concern for special needs students, while another 22% were concerned with the implementation process. Included in the last category were desires for competency testing as a local option and concerns with the test instrument, i.e., the basis and extent of measuring students' abilities.

School superintendents voiced concerns very similar to school committee chairpersons. Their greatest concern was for the special needs students. Forty-one percent believed it would be impossible for all students to meet minimum specifications. Twenty-eight percent viewed basic skills improvement as a necessity, and 15% questioned the implementation process and focused on the need to retain local autonomy. Suggestions for implementation ranged from "letting school committees set their own requirements" to "allowing for local options above the minimal requirements." Eleven percent felt students lack motivation and feared testing would set minimal standards which would not challenge bright students.

Among teachers, 23% claimed minimal skills could not be accomplished by all students. The major concern of this 23% was for the future of students who could not pass these tests. In addition, although 17% said basic skills are essential, 13% felt more emphasis should be placed on life skills, i.e., balancing checkbooks, personal hygiene, the use of calculators, and the use of reference materials. Ten percent stressed the need for diagnostic testing in the primary grades to discover weaknesses early in the educational process. A few also felt very strongly against automatic or social promotions. Another 18% felt students lacked motivation and personal values. They felt encouraging students to develop to their fullest potentials would advance the educational process. This group questioned competency testing, fearing it would encourage teaching to the test, thereby lowering standards.

Directors of English also felt very strongly on this point. Twenty-four percent of the comments concerned low levels of motivation. They felt minimal skills would have a negative effect on skills presently taught and that more emphasis should be placed on writing which would stimulate creativity. Nineteen percent said the skills could not be achieved by all students, while 5% thought the skills were all together too difficult. Another 9% expressed concern that the program should be a local option.

Among directors of Mathematics, 23% felt it would not be possible for all students to reach minimal competency levels. An additional 14% said some of the skills were much too difficult and therefore not essential for all students. Application of skills was viewed as more important than performance by 10% of the directors of Mathematics who wrote comments. They felt the basics should reflect skills necessary in real life situations.

Among principals, 30% felt it would not be possible for all students to acquire minimal skills, and 12% stated a test should not be required for graduation. A fear of teaching to the test was expressed by 7% who claimed it would lower standards. An additional 7% said they were against state mandated testing.

Of the 123 questionnaires returned by members of the business community, thirty-one percent contained comments. This group is the most strongly in favor of implementing the Basic Skills Improvement Policy immediately. Fifty percent of these respondents stressed the importance of "getting back to basics," claiming the program is long overdue. Forty-eight percent focused on the inability of high school graduates to cope in the business world. They criticized the school system for turning out graduates who are not ready to take on responsibilities. Not only does the business community want graduates to possess marketable skills, they are demanding assurance of maturity as well, as evidenced by several of the comments by the business community respondents.

For their part, students are not willing to take all of the blame. Their comments indicate they are eager to learn, but they feel a lack of guidance and proper programs. Thirty-nine percent of the 590 students responding to the questionnaire expressed their feelings with comments. The major concern was for a stronger curriculum and more dedicated teachers, which was voiced by 24% of those who commented. Twenty-two percent said they want basic skills improvement because such skills are essential for survival in the "real" world. Besides a perceived need for stronger curriculum, better teachers, and marketable skills, 15% want more guidance and encouragement. They expressed a need to understand how subjects relate to life situations and what skills are really necessary to insure success. Many students felt deprived of valuable knowledge and realized they are not achieving to their fullest potential.

In general, the comments tended to support the idea of improving basic skills in the Massachusetts public schools. This support was accompanied by a general concern for special needs students, programs which go beyond teaching to the test, and, particularly in the case of administrators, the need for retention of local autonomy. The overriding tenor of the comments is clear--the public is very much concerned with improving the quality of education in the Commonwealth.

The sample of verbatim responses by group follows. The reader should note that we have included responses as they were written, with no editing whatsoever. The reader should keep in mind that comments on surveys are often written in haste. If the reader sees awkwardly phrased, poorly written comments, please do keep in mind we asked for comments, not essays.

SAMPLE OF VERBATIM RESPONSES TO "COMMENTS" SECTION OF MAIL QUESTIONNAIRE

A. Superintendents

You have avoided questions related to some most fundamental basic skills -- probably because they are hard to test by simple testing instruments.

(A) Skills in viewing -- intake via TV and seeing movies, audiovisual devices, etc.
(B) Skills in thinking.
(C) Skills in problem solving.
(D) Skills in dialogue, negotiations, conversation.
(E) Skills in personal interactions -- human relations.
(F) Skills in decision-making (using rationale, emotional, spiritual mixture).

The use of the term *all* students made this survey difficult to answer in some areas.

I feel that in talking about basic skills we must be very careful in differentiating between basic "functional literacy" for terminal students and basic skills necessary for students who will pursue further education after high school. If the goal is to test for the former we must make certain that only those skills are tested and not those more appropriate for the more academically oriented student.

Too many of the skills listed on this questionaire are not *basic* skills. Those items under #1 and circled on this questionaire I consider *basic* and important -- and most of which should be acquired prior to high school. Competency testing in the *basic* areas should be concentrated and confined to Grades 1-8.

Realistically I cannot believe that *all* students will at any time achieve at a minimum competency level unless the standards are set at a level which is inconsequential.

I believe in establishing high standards for student achievement in Language Arts and Math. Educators are responsible for allowing standards to be relaxed in the last decade. If we have not assisted students in acquiring basic skills to function effectively after graduation -- then we failed!

B. School Committee Chairpersons

Difficult to tell on some items what the criteria for succesfully demonstrating the skills are - particularly in communication skills - what level would the reading selections be? I am also an elementary school teacher - grade 5.

The most glaring defect in this questionnaire is that it assumes from the questions that public education is the best vehicle to accomplish objectives "a" - "y." Since many educators, including me, have grave reservations about that assumption as it applies to particular objectives - some of which appear on this list - I must, in all honesty, challenge the validity of any conclusions based on this document.

I assume this was sent to me as a school committee chairperson and not my occupation as an elementary school principal. If such is the case my responses are biased from my background and experience with education; which is more than some school committee chairperson. I hope in no way this will affect the study. I would be interested in seeing the results of this very interesting survey when it is compiled and printed.

The key in determining my answers was the words "all students." Many students may graduate with a slight amount of knowledge in all areas listed and be well-equipped to meet the demands their particular adulthood will pose. To assume that passing a test will make everyone successful as adults frightens me. A testing system structured with that goal in mind can do more damage than good. An 18 year old can be a "failure" before they even try to cope with "the outside world." Very careful consideration must be given also to the 766 child in this whole process.

The key question, in my opinion, is the word all underlined.

Clearly it is my opinion that communication skills are of utmost importance. The learning process is based on communications, as a receiver and as a sender. If one can read and understand, write for others to understand, speak with conciseness and clarity and, above all, listen, one can learn virtually any skill.

Reading and understanding most important. Without this ability new knowledge difficult to attain alone. Math important in todays world. I think the one word to best describe todays world is respect or more aptly, lack of it. One could fill this page expounding on this. Basically without respect for others, their rights, feelings, property, etc., one has no basis for respect of self.

C. Business

Extremely important a) ability to spell b) question 3-o - ability to complete application forms plus good appearance should be stressed.

Your concern is encouraging.

I feel it is of vital importance to high school seniors to have developed competence in mathematical and verbal skills. Without them, I think their future as individuals would be limited.

It is important for a student to think and reason personal values and apply them to the social milliew. Also important is the ability to start from the abstract and go to the concrete or vice versa. An understanding of the forces of change, politics, technology which affect the quality of working life is essential. Hopefully you will see fit to mail a copy of the survey results to the participants of the survey.

As an employment interviewer, I find many high school graduates lack the educational background to move ahead in a job (i.e., machinists need basic math and ability to read simple blueprints, typists need to know how to use a dictionary and phone etiquette); indeed such practical knowledge as how to neatly fill out an application form, to bring their social security number, not to chew gum, to be neat and clean are frequently missing.

Analytical skills, comprehensive skills, and written and verbal skills are extremely important for meaningful success in business, community and with other people.

As a secondary/college level teacher in the past and as the Director of Personnel for a large banking institution, I find the high school education most students receive as quite lacking in depth. Seldom do we interview applicants who can speak and write clearly unless they've attended post high school schools. We are currently undertaking the establishment of a writing course for our staff in order that their written communication skills reach the acceptable level.

As is usually the case, the definition of your 4 categories are somewhat subjective. With few exceptions, the forced choice is almost to the top two. Actually, 80% to 90% should be answered, idealistically, in the top category.

D. Principals

In responding, I used a literal interpretation of "all" pupils and based my comments accordingly. I recognize that some pupils may never achieve what we could describe as the "minimum".

It is difficult to pinpoint some of the must know information. Certainly, a high school graduate must have at least a fair knowledge of the basic or fundamental skills. The key word in the questionaire is all graduates. Depending on what the student's intentions are upon Graduation, different levels of achievement are required. If we speak of what minimum competency, we then are speaking of what should be expected of every high school graduate. Testing these abilities surely requires great thought and further study. I read recently that one school district in the country would not award a diploma until a student could fill out the I.R.S. 1040 form. Surely an admirable goal, but how many successful businessmen hire accountants for this chore.

Freedom must be taught. Attitudes must be discussed and related to our form of government. Ethics and values and our responsibility for our actions. With democracy goes responsibility.

It would seem impossible that "all" students would be able to accomplish any of the listed attributes.

Approve in principle of competency testing for diploma purposes. However, minimum skills development should be a prerequisite for entry to grade 9.

The skills enumerated are very encompassing. However, I feel that no secondary institution can impact all of these skills or even a significant portion of them to a large number of our students. It must be said that certain people do not have the mental ability to absorb them. Work study or alternative education are directions which must be explored.

Competency testing is a good idea - as long as it doesn't create a bureacuracy that makes us spend time on testing than teaching.

I hope the "minimum" does not become the "maximum" with regards to expectations.

I would like to qualify some answers: For instance, 3(c) I agree that all students should be able to read and to some extent - interpret a paragraph. However, to expect all students to have the intellectual capacity (as well as developed skills) to read, interpret and draw conclusions for the many paragraphs of an article or book seems too high an expectation for everyone. Also: 1(b) How to interpret "periodic" examinations? I checked "agree strongly" assuming "periodic" is not too frequently the process of education should not be one of bounding from test to test.

I still will strive to meet the individual needs with a standard evaluation instrument as a guide for the pupil.

Reject idea of the Comm. of Mass. or Federal Gov't. imposing competency on much of any regulations. Local autonomy must prevail. State is ineffective and inefficient and doesn't have the sensitivity involved to provide variations. For instance mandatory lunch programs, mandating Chap. 766, Chap. 622. Communities differ and the mandated programs do not offer differences among communities. High economic towns do not need lunch programs - too much Big Brother in the act!

The distance between extremely important and somewhat important is to great. My only reservation with the survey. Good survey!

This survey may be difficult to understand, for some under average seniors.

(a) All teachers from grade I through gr. XII (at the secondary level, certainly English and Social Studies teachers) should teach writing skills. Students should be expected to do a weekly writing sample. This should be analyzed for content and closely corrected for errors in grammar and spelling. Secondary students (high school) are not being taught to write essays utilizing research skills. As a high school teacher (History) in the 1950's and 60's I embarrassed English Dept. members by writing and mimeographing an essay Writing Syllabus for my classes. (b) H.S. Students should take 4 years of a foreign language if they are preparing for college. (c) High school should all take at least 3 years of Mathematics. (**d) Summer remediation in Basic Skills (3 r's) should be made available to Elementary Students - particularly in urban areas that have greater numbers of disadvantaged youngsters. (e) Middle and Junior High Schools have seen their day. The K-8 configuration is far more efficient and I believe can obtain improved educational achievement from youngsters.

"All" students includes those with special needs - some of whom are incapable of reaching some of these goals. That fact has made me tend to mark some areas as less important than I would do otherwise.

Not every high school graduate has the ability to accomplish the skills listed in #2 and 3.

I stress that my choices deal with my feelings on each of the questions. I have no data on the questions, but my feelings are based on my teaching and general experience.

Present system of mandatory attendence for some pupils who are disenchanted with school is questionable. Other alternatives are available but do not receive state support needed for success.

We must get some guarantee that our young people will be able to accomplish this objective

E. Directors of English

I had great difficulty in separating highly desirable or important goals from goals obtainable by all or nearly all students. For example, item "w" under communications. This is a very important and desirable skill. But most people in the population can't do it. People who can do it are the admired exception, the leaders, the spokespersons for a community. This is not a reasonable goal for most students, but all should try to attain it.

I found it difficult to evaluate your questions. By *all* students did you mean those who are classified as 766 as well as the general population?

I may be out of my field here, for I'm an English teacher, but this list of math elements is painful in its limitations. Where are those elements where *thinking* is the crucial element? If I were a math teacher, I would be furious at this cataloging of the merely elementary.

I had difficulty responding to the questions. I believe that many (actually, most) of the skills listed are extremely important. However, some of the students we are presently graduating from Massachusetts high schools are *incapable* of learning those skills (many of our MR's, for instance). Do we change our philosophies and award these students certificates of attendance, or pink diplomas instead of blue ones? A question that *must* be answered, and answered without hedging or equivocating, as we in education sometimes tend to do when forced with real decisions.

3N is unclear to me. It would appear that the English part of the questionnaire is designed more for college prep students, while the math part for basic or general type courses.

I know many productive citizens who can't do the items listed, yet they're valuable members of society. I question seriously the role of competency -- perhaps because I know our students are more than competent. Those who might not be will never be competent according to the previously mentioned standards.

I feel that the questions asked in the math area were much more specific than those in the verbal area, especially in a survey about the needs of *all* students. Some of the more sophisticated skills listed are simply not within the grasp of some students. Many essential skills not listed are, I believe, within the grasp of most students. Because the survey was weak in English skills, I had trouble answering. If the section had been prefaced by a qualifying phrase defining the students as "those who are able", I would have found the survey more comfortable.

The secondary level minimum standards are much too high. I don't expect many of my average seniors to be able to do some of the items suggested. All 3 arts are too difficult: reading, writing, and listening.

While I have few problems with competency on a conceptual level, I'm scared by the politics of its implementation. Your survey is frighteningly simplistic. The value judgments each participant brings to his interpretation of the items and the vagueness of the scoring categories you offer make the drawing of anything but the most sweeping generalizations very circumspect. My apologies for my "negativeness," but I hope the results of your survey are insignificant.

At our school (Nanset Regional) the standards seem higher than at many schools (if one is to believe the horror stories one reads). All our students, even the Special Class students can read, write, and do basic math.

I doubt very much that schools today prepare students for tomorrow. I believe we're still building battleships as it were for an age of aircraft carriers. The world ahead can not be the world we have gotten used to. Therefore, to identify "basic skills" as the skills of reading and math essentially is shortsighted, pedestrian, middle class in all its worst meanings.

I have not answered your questions in parts 2 and 3 because I do not believe they are appropriate for all students under our present system of public education. Not all students are able to do the same kinds of academic work at the same level of performance even in homogeneously grouped classes. With the advent of 766 the diversities will be even greater. Educators must either abandon the idea that all students must meet a certain level of achievement by a certain time or prepare to deal with the fact that some students will fail.

Minimal competency testing should be the prerogative of local school districts, not the state or county.

This is an item (Basic Skills Program) of gigantic import. Need to be concerned with where the 'burden' is placed.

I found the use of the word "all" to describe students to be a difficulty. My first impulse is too strongly agree with each of the listed items, but in reality, not all people are capable of learning even the simplest item. To say that all people should be able to critically evaluate and analyze is simply not possible. Ideally, of course, that should be a small percentage.

F. Directors of Mathematics

Concerned primarily with a literate population. Functional Math & Eng. Upward social mobility!

For Gen. student excercises in Math & Eng. should take examples from normal everday living situations. Reading & filling out forms, income taxes, job applic., surveys, questionaires. Less on Shakespeare or classic writers. Fundamental Math for real proficiency before higher Math, Alg, Geom, etc. Newspapers, magazines as well as novels etc for reading pleasure. Town meeting warrant as example of reading comprehension.

Under mathematics basic skills it is not so important to be able Add, substract etc but to know when and where to use the processes of Addition & substraction. It is useless to only be able to do the division Alogrithm etc. What about basic Thinking Skills in mathematics and Problem solving skills. The math part of this survey was obviously not made up by a mathematics person.

The word "all" affects the choices I made to a great extent. If all students were capable, I would have circled "extremely important" many more times.

It would be informative if the results of the questionaire could be published to the educators of Mass.

The school I am employed by is a vocational technical high school. We believe it is very important that in considering minimum requirements for graduation that seperate criteria be developed for vocational education. Many of our "poorer" students, some who can't read, turn out to be very satisfying employees in their trade area. Likewise with some who cannot do basic math.

1. In answering your section 4, I have circled #4 under a but have also answered the part directed to teachers. I am titled a coordinator but I also teach as part of my responsibilities.
2. In answering your questions I have dealt with the slow learner in my thinking but not mentally incapacitated students. I have used our complete school structure in answering.

The whole concern of Min. Comp. Testing is such a SHAM. Of course it would be nice if all kids could do each of the Math skills listed. But testing as proposed by Min. Comp. advocates will not do it. As I said on first page, bright kids will laugh at the test because it will be so simple, while slow kids will drop out if they cannot pass test - why should they let us label them as dumb if they can avoid it? I do believe in diagnostic tests, but your questionaire is not structured in that way, and it is therefore difficult for me to complete.

I have been on a Committee which worked for four years on Graduation Requirements which dealt basically with the foregoing ideas so I feel that my judgments in answering the questions have been 'considered judgments' rather than answers made as a quick decision. I feel that 'skills improvement' must include skills or ability to develop skills which will be needed throughout one's life, not purely for survival in the first few years after graduation.

Although I feel that all students should attain basic skills, I'm realistic enough to know that this is virtually impossible. In education, we should strive to attain a maximum which may or may not be the total population. In past years, all students have not been able to attain all the skills they should have per 12 years of school, and I suspect this will be true for the future. What I feel has happened is that we have experimented too many times in education and to the detriment of the student. Today, laws and attitudes are such that it becomes virtually impossible to educate a student unless they have the need or desire to do so. If we could indeed accomplish our goals as teachers, the students wouldn't need to be subjected to competency tests. I don't feel this necessity for testing is the answer or the path to travel - our problems are much deeper!

G. High School Seniors

Minimum competency testing should be a requirement long before a student reaches his or her senior year. It should begin in elementary school, and competency test should be required for promotions to subsequent grade levels for all students.

The reason I consider so many of the areas mentioned in the questionnaire important is because they are for the enrichment of the student. If a person graduates from high school with a well rounded background it will not limit their possibilities in the future. It is very rare that a high school student would have the foresight to decide their future. The only way I see for improving the various skills of the students is too try from the very beginning, in the first few grades, to interest them in education. In addition, teaching should be a profession that someone enters because they really want to help the students, not as a last resort. A bigger emphasis should be made on getting more dedicated and qualified teachers.

Most seniors, except those in accounting, have no idea how to balance a checkbook. There is no time given just for pleasure reading either. There are no etymology courses given, except Latin and that hurts, not everyone want to take Latin. The grammar part of English is lacking in vocabulary and punctuation. Poor spellers get off easy.

The competency test will be a good idea. Because people are tending not to further education.

I think school does not teach the necessary items you need for college. When I went to take my SAT's, half the things on the test I never even see before such as in math. I think schools should require you to take these things that you will need in college or for the SAT's because when students first come in to high school they don't know if they are going to college or not but later on as the years pass they decide they want to go when they graduate and by then its to late you don't have the required classes to get into college.

There are some courses here that we are required to take but, I really don't think we need to. Like if you are going to be a secretary it is more important to take English and Business courses than History and Science. Why do we need History and Science if you are not doing something that pertains to it?

I think this questionnaire is very good so you can learn what should be brought more to the schools. To make it easy for a person to go to school and out into the world of business.

H. Teachers

I firmly believe that competency testing should not ever be done in the elementary schools.

Basic communication skills and a means of earning a living should be assured of.

I feel that the necessities for all students should include: Addition, subtraction, multiplication, division - of whole numbers and fractions; reading, writing & spelling of common words; and comprehension at a level to allow understanding of newspapers and magazines. If the above skills receive enough concentration in the elementary grades, there should be time in high school for enrichment in the areas of Public Affairs and Values.

Maybe you could develop a survey for elementary - grade skills.

There will be many children who will do well in life without learning any of these skills. Everyone will give you subjective answers based on their own personal experiences. The progress of each child should be based on the individual's capacity to learn and not the group in a classroom. Although, it would be ideal, there is no way you could guarantee that each child graduating has learned the same skills, too many individual factors are involved.

I definitely agree with the statement that high school seniors need to be equiped with basic skills - however, I do not feel that a testing program is tha answer. School systems need to develop a curriculum based on the intellectual development of students. The students need to be taught how to think - how to solve problems. A Testing Program is starting at the wrong end of the spectrum.

I am not sure examinations are the best method to test these skills. I also fear a situation in which teachers had to teach for a state examination. I think that having to teach for a examination could have the effect of watering down a curriculum and standardizing curriculum.

I would have been interested in the intent of this survey, specifically, and what you hoped to do with the results. Should it have anything to do with the back to basics movement, I applaude your efforts. Judging by the results, our new methods of teaching are not highly successful, and a change for the better would be most welcome.

In our present times of political and financial turmoil, in a society of "confused" or changing values - one must be able to read well, understand what's read and relate exactly what one's thoughts are. Truth of feelings and information must be know in order to grow and be aware of your growth and that of others. Maturity is lacking in many areas. We grow older faster......

......chronologically and phsyically than we do mentally quite often due to the demands of the times that are quickly and constantly changing. What we learn, therefore, should be learned well-intrinsically.

All students must be able to conquer the math and language skills they need to exist. In math for example they must know how to make change, keep a checking account, measure areas (to buy rugs, etc.) and identify shapes. Memorizing how to write a business letter is not as important as knowing where to look for the information; that is, if I can use a reference book for uncommon problems, why should I be forced to memorize them.

I think it is unfair to expect a foreign born to achieve many of the abilities in a second language to the extent an American born could achieve. Also, mental I Q would necessitate a range in the comprehension field of ability. What about the ability to: keep a checking account; budget wages; eat balanced meals; be honest and law abiding???

I have graduated from college and would like to see more emphasis placed on career-goals or programs which provide exploration of different job settings, especially in junior and senior year. This would help students who want to go to college, see if their job choices, later would be practical. So many people enjoy courses of study but not the career settings associated with them. For those not going on to college, such on the job programs are vital.

3(n) Unclear (write appropriately for different people?)
3(o) Should be two questions: (1) Write business letters
(2) Fill in application forms
3(u) Should also be two:
(I consider the ability to speak clearly and logically when requesting general information to be more important than to speak clearly and logically when relating a story.)

May I suggest that prior to creating a competency test, you observe and evaluate those schools which have consistently scored below the state level on tests previously. I.E. New Bedford, Fall River. I am appalled by my own observations of such systems.

In our town the student is pushed through the school (Jr. High) regardless of his/her abilities. If the student deserves to stay back, a way will be found to promote that student (most of this is done through a very basic and short summer school program) so that he/she won't remain a "problem" of the junior high. One third of our students have 4th, 5th, and 6th grade reading and writing levels.

#1A was difficult to answer without knowledge of students graduating from many high schools. I feel that students graduating from Newburyport, Triton and other local schools are well educated, but that does not seem to be the case with inner city schools.

I strongly believe that there should be minimum competencies established at each grade level which a student must achieve before he is passed along to the next level.

I feel the basics are the whole foundation for a person to meet success in any field be it vocational or a career in a chosen profession. However the basics or a minimum standards must be realistic and applicable to the ability of the individual student.

It appears to me that only the most basic skills qualify as "extremely important" - However, there are many ways to use subject material to develop these skills.

Ques. 1b. Group testing does not necessarily determine competence. Many factors prevent accurate results. Ques. 1c. What level constitutes minimum skills? Gr. 6, 8, 9, 12? In general, all responses were based on grade six-survival level competence. Beyond this level, the greater the skills, the greater the opportunity for higher level, more challenging employment. One important ques. was omitted. The ability to measure length, using the present system (in., fts., yds.) is extremely important. This was mentioned only in reference to metric measurements.

I would like to see criterion - referenced tests used throughout the schooling of a pupil so the student always knows what he has learned before he's allowed to go on. Any standardized tests should be given well in advance of high-school graduation (early high school and perhaps mid-high school) that there are no unfair surprises which might jeopardize graduation.

I think that the move toward requiring basic skills for high school graduation is a good idea. I do have some concern that too much time may be spent gearing students to take the 'basic skills exams'. Standardized tests have limited value and should only be used to evluate part of a student's ability. The 'real world' (as students refer to it) doesn't have many 'standardized tests.'

The issues listed are, in my opinion needed by all!

APPENDIX B

Copies of the Survey Instruments with Frequency Distributions

The telephone interview schedule is presented first with the frequency distribution of responses (in percent) to all questions included. These are the results for the general public sample (N=502).

The mail questionnaire is presented second, again with the frequency distribution of responses included. The reader will notice three figures in each location of the table. The upper lefthand figures represent the educator sample (i.e., the combined responses of teachers, principals, directors of English and Mathematics, superintendents, and school committee chairpersons); the middle figures represent business community respondents; and the lower righthand figures represent students. All figures are percentages. For demographic characteristics of the sample see section II of this report.

BASIC SKILLS IMPROVEMENT
PROGRAM SURVEY

BSIPS
101-105

OCTOBER 1978

DATE ______________________________

TIME INTERVIEW BEGAN ______________________________

TIME INTERVIEW ENDED ______________________________

LENGTH OF INTERVIEW ☐

INTERVIEWER'S NUMBER ☐

BOOTH NUMBER ☐ EXCHANGE ☐

LOCATION NUMBER ☐ AREA CODE
85 617
15 413

RESPONDENT'S SEX
47 MALE
53 FEMALE

Hello, my name is ______________________(FIRST AND LAST NAME). I'm on the staff of Clark University's Public Affairs Research Center in Worcester, and we're taking a public opinion survey for the Massachusetts State Department of Education. I'd like your view on public school education here in Massachusetts.

1. To begin with, how many years have you lived in Massachusetts, or have you live here all your life?
    2 LESS THAN ONE
    2 1 or 2
    2 3-5
    4 6-10
    6 11-20
    4 21-30
    7 MORE THAN 30
    73 ALL MY LIFE
    0 DON'T KNOW

2. I'm going to read you three statements and for each one please tell me if you agree or disagree with the statement. (IF RESPONDENT SAYS AGREE/DISAGREE, ASK: Do you agree/disagree strongly or mildly?)

	Agree Strongly	Agree Mildly	Disagree Mildly	Disagree Strongly	Don't Know
a. There are significant numbers of students graduating from high schools in Massachusetts without sufficient skills to solve everyday problems.	55	27	7	5	6
b. The best way to determine if students are learning necessary skills is through periodic examinations designed to test those skills.	65	22	6	4	3
c. All students should be able to demonstrate certain minimum skills by the time they graduate from high school.	87	9	2	1	1

3. I'm going to read you a list of specific mathematical skills and for each one please tell me if you think the particular skill is extremely important, somewhat important, not too important, or not at all important for all students to have by the time they graduate from high school. Throughout the list remember we're asking you to rate how strongly you feel all students should have the skill before high school graduation. If you don't understand an item, just let me know. (START AT DESIGNATED LIST AND DESIGNATED POINT. RE-READ RESPONSES AS NEEDED TO REMIND RESPONDENT OF HIS/HER CHOICES. AFTER FIRST ITEM FOR EACH RESPONDENT SAY: This is not a test to find out what you know. We're interested in your opinions about the importance of these skills for students to have. CONTINUE WITH LIST.)

	Extremely Important	Some-what Impt.	Not Too Impt.	Not At All Impt.	Doesn't Under-stand Q	Don't Know
How important is it for all students to be able to:						
a. identify a triangle, right angle, square, and sphere	55	32	10	2	0	1
b. understand tables and graphs such as a mileage table or bar graph	39	43	11	2	3	1
c. estimate the chances that an event will occur	22	36	25	8	6	3
d. add, subtract, multiply, and divide whole numbers	97	2	0	0	0	1
e. work with fractions such as one-quarter, one-half and one-third	83	14	2	0	1	0
f. work with decimals	76	20	3	0	2	0
g. use percentages to compute interest, discounts, and taxes	75	20	4	0	0	1
h. estimate length, weight, and area	53	35	10	1	1	0
i. approximate amounts, such as rounding off to the nearest dollar	67	26	6	0	1	0
j. understand and use metric units of measurement as well as customary units of measurement (EXPLAIN IF NECESSARY: gram and kilometer vs. ounce and mile)	49	32	13	4	1	1

How important is it for all students to be able to:	Extremely Important	Somewhat Impt.	Not Too Impt.	Not At All Impt.	Doesn't Understand Q	Don't Know
k. use simple formulas, such as area equals length times width	46	41	9	2	1	2
l. find an average such as average temperature and average income	61	31	6	0	1	1
m. use a highway map to figure out the distance from one city to another	47	40	12	1	1	0

4. I'm going to read you a list of specific communications skills in the areas of reading, writing, listening, and speaking. For each one please tell me if you think the particular skill is extremely important, somewhat important, not too important, or not at all important for all students to have by the time they graduate from high school. Throughout the list remember we're asking you to rate how strongly you feel all students should have the skill before high school graduation. If you don't understand an item, just let me know. (START AT DESIGNATED LIST AND DESIGNATED POINT. RE-READ RESPONSES AS NEEDED TO REMIND RESPONDENT OF HIS/HER CHOICES. AFTER FIRST ITEM FOR EACH RESPONDENT SAY: This is not a test to find out what you know. We're interested in your opinion about the importance of these skills for students to have. CONTINUE WITH LIST.)

How important is it for all students to be able to:	Extremely Important	Somewhat Impt.	Not Too Impt.	Not At All Impt.	Doesn't Understand Q	Don't Know
a. read and recognize words, and understand the meaning of frequently used words	95	5	0	0	0	1

How important is it for all students to be able to:	Extremely Important	Somewhat Impt.	Not Too Impt.	Not At All Impt.	Doesn't Under-Stand Q	Don't Know
b. read and understand the main idea and important details as stated in a paragraph, article, or book	85	13	1	0	1	0
c. read, interpret, and draw conclusions about a paragraph, article, or book	76	22	2	0	0	0
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book	72	24	3	0	1	1
e. have had a variety of library experiences which develop the ability to use library resources for information and pleasure	56	36	7	1	0	1
f. demonstrate the ability to write knowledgeably and clearly about various subjects	64	31	4	0	0	1
g. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure	71	25	4	1	0	0
h. demonstrate the ability to express personal experiences in writing	44	45	9	2	0	0

	Extremely Important	Some-what Impt.	Not Too Impt.	Not At All Impt.	Doesn't Under-stand Q	Don't Know
How important is it for all students to be able to:						
i. demonstrate the ability to write appropriately for different people	36	47	11	2	3	1
j. listen to a speaker and evaluate content, organization, and development of the speech	50	39	10	1	0	0
k. listen to a speaker and judge whether or not the speaker was successful in creating his intended mood or effect of the speech	40	45	13	1	0	1
l. listen to a speaker and identify the main idea and important details of the speech	68	28	3	0	0	0
m. listen to a speaker and draw conclusions about the implications of the main ideas of the speech	64	33	3	0	0	0
n. demonstate the ability to speak clearly and logically when relating a story or requesting general information	77	21	2	0	0	0
o. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener	40	41	14	4	0	2

	Extremely Important	Somewhat Impt.	Not Too Impt.	Not At All Impt.	Doesn't Understand Q	Don't Know
How important is it for all students to be able to:						
p. demonstrate the ability to speak persuasively by supporting statements with evidence	60	31	6	1	1	1

Now here are just a few questions so we can classify your answers.

5. Are there any school-age children now living in your household? (IF NECESSARY: By school-age, I mean grades Kindergarten throug the 12th grade.)

39 YES
61 NO —— SKIP TO Q. 7

IF "YES" TO Q. 7, ASK:

6. Do they attend public or nonpublic school?

83 PUBLIC
11 NONPUBLIC
6 MIXED

7. What was the last grade in school you completed?

9 8th GRADE OR LESS
12 HIGH SCHOOL INCOMPLETE (Grades 9, 10 or 11)
42 HIGH SCHOOL COMPLETE (Grade 12)
18 SOME COLLEGE (Educational training beyond H.S.)
11 COLLEGE GRADUATE
7 GRADUATE WORK

8. In which of these age groups are you? (READ RESPONSES)

6 18-20
10 21-24
16 25-29
18 THIRTIES
16 FORTIES
12 FIFTIES
23 60 OR OVER

9. What is your race?

95 WHITE
3 BLACK
2 OTHER______________________________(SPECIFY)

10. Other than American, do you consider yourself to be a member of any nationality group? (IF YES: What nationality group is that?)

0 HISPANIC OR PUERTO RICAN
22 OTHER
78 NO

11. So that we can group all answers, what is your total annual family income before taxes: under \$5,000, \$5,000-\$10,000, \$10,000-\$15,000, \$15,000-\$20,000, \$20,000-\$30,000, or over \$30,000?

15 UNDER \$5000
13 \$5000-\$10,000
22 \$10,000-\$15,000
18 \$15,000-\$20,000
14 \$20,000-\$30,000
10 OVER \$30,000
8 DON'T KNOW

12. Where do you live -- in what city or town? In what county is that?

Thank you very much for your help.

KEY
+ educators
* business community
# students

Basic Skills Improvement
Program Survey

1) For each of the following statements please circle the number which best describes your feelings.

	Agree Strongly	Agree Mildly	Disagree Mildly	Disagree Strongly	Don't Know
a. There are significant numbers of students graduating from high schools in Massachusetts without sufficient skills to solve everyday problems	38 +	36	11	7	8
	58 *	30	2	2	8
	29 #	51	14	3	3
b. The best way to determine if students are learning necessary skills is through periodic examinations designed to test those skills.	51	37	7	4	2
	61	28	8	2	1
	35	46	13	5	2
c. All students should be able to demonstrate certain minimum skills by the time they graduate from high school.	75	17	4	4	0
	96	3	1	0	0
	78	19	2	1	1

2) The following is a list of specific mathematical skills. We would like to know how impo tant you feel each of these skills is for all students to have by the time they graduate from high school. Please rate the importance of each skill by circling the appropriate number to the right of each.

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not Too Important	Not At All Important	Don't Know
a. use a highway map to figure out the distance from one city to another	28	50	20	2	0
	20	43	36	2	0
	22	54	22	3	0
b. identify a triangle, right angle, square, and sphere	42	44	13	2	0
	41	40	18	1	0
	29	44	23	4	0
c. understand tables and graphs such as a mileage table or bar graph	37	49	13	1	0
	32	50	17	1	0
	29	48	19	2	1
d. estimate the chances that an event will occur	14	41	34	9	1
	20	36	33	11	0
	15	38	35	11	2
e. add, subtract, multiply, and divide whole numbers	96	4	0	0	0
	99	1	0	0	0
	95	4	1	0	0
f. work with fractions such as one-quarter, one-half, and one-third	81	16	3	0	0
	83	16	0	1	0
	70	28	2	0	0
g. work with decimals	76	20	3	0	0
	82	18	0	0	0
	64	30	5	0	0
h. use percentages to compute interest, discounts, and taxes	70	25	4	1	0
	66	31	3	0	0
	68	28	4	0	0
i. estimate length, weight, and area	49	42	8	0	0
	44	42	13	1	0
	41	45	13	1	

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not Too Important	Not At All Important	Don't Know
j. approximate amounts such as rounding off to the nearest dollar	59 64 48	36 33 45	4 3 7	0 0 1	0 0 0
k. understand and use metric units of measurement as well as customary units of measurement	33 28 43	50 54 43	15 16 12	2 0 2	1 1 1
l. use simple formulas such as area equals length times width	37 30 22	46 53 50	15 16 25	2 2 2	0 0 0
m. find an average such as average temperature and average income	44 43 51	42 47 38	12 10 10	2 0 1	0 0 0
n. work with exponents such as 10^2	4 8 7	27 17 38	47 57 41	20 16 12	1 2 2
o. add, subtract, multiply, and divide fractions and mixed numbers	47 63 55	34 29 33	16 8 10	3 0 2	0 0 0
p. use a variable to represent a number	9 10 15	35 34 41	40 43 33	13 11 9	2 2 2
q. compute the total cost of several items, given the cost per unit	79 80 54	18 15 35	3 6 7	0 0 2	0 0 1
r. identify parallel, perpendicular, and intersecting lines such as those on a street map	31 34 20	45 42 48	20 21 27	4 3 4	0 0 1
s. identify radius, diameter, and center as being parts of circles	25 30 12	43 36 44	25 29 32	7 5 10	0 0 1
t. find the perimeter and area of a triangle, square, and rectangle	24 16 12	40 39 37	28 37 40	8 7 11	1 0 1
u. find the volume of solids such as cubes	11 10 9	36 30 33	38 49 42	14 11 15	1 0 1
v. read scale drawings such as floor plans of a house	21 14 20	49 40 45	23 37 28	6 8 6	0 1 2

) The following is a list of specific communications skills in the areas of reading, writing, listening, and speaking. Again, we would like to know how important you feel each of these skills is for all students to have by the time they graduate from high school. Please rate the importance of each skill by circling the appropriate number to the right of each.

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not Too Impt.	Not At All Impt.	Don't Know
a. read and recognize words, and understand the meaning of frequently used words	97 98 94	3 2 6	0 0 1	0 0 0	0 0 0
b. read and understand the main idea and important details as stated in a paragraph, article, or book	92 89 83	8 11 16	0 0 1	0 0 0	0 0 0

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not Too Important	Not At All Important	Don't Know
c. read, interpret, and draw conclusions about a paragraph, article, or book	75	24	1	0	0
	74	24	1	0	0
	63	33	3	1	0
d. read and make judgments about ideas by recognizing what is fact, fiction, and opinion in a paragraph, article, or book	72	25	2	0	0
	66	30	3	0	0
	56	38	5	0	0
e. recognize the components of words such as roots, affixes, and variants	22	53	21	3	0
	22	37	37	4	0
	20	50	25	4	0
f. read and understand explicit meanings of charts, maps, and graphs	32	53	13	1	0
	25	50	24	2	0
	27	53	18	1	1
g. translate expressions such as "he is all ears" into their literal meanings	25	51	20	4	0
	29	45	24	2	0
	25	45	24	5	1
h. read and recognize methods of presentation such as propaganda techniques and rhetorical techniques	41	44	13	2	1
	33	41	24	2	5
	25	45	19	5	5
i. have had exposure to a variety of reading experiences designed to develop personal values	57	36	6	1	1
	54	38	8	0	0
	47	36	11	2	3
j. have had a variety of library experiences which develop the ability to use library resources for information and pleasure	50	43	6	1	0
	42	47	10	1	0
	39	45	14	2	0
k. demonstrate the ability to write knowledgeably and clearly about various subjects	51	41	8	0	0
	61	35	4	0	0
	62	31	6	0	0
m. demonstrate the ability to express personal experiences in writing	52	39	8	1	0
	52	37	11	0	0
	48	40	11	2	0
n. demonstrate the ability to write appropriately for different people	27	47	21	3	2
	24	39	34	2	1
	32	47	17	2	2
o. demonstrate the ability to write formal business letters and application forms	62	32	5	1	0
	47	46	7	0	0
	64	27	7	1	1
p. demonstrate the ability to condense information into outline or synopsis form	26	49	21	4	0
	30	43	23	4	0
	24	50	19	4	3
q. demonstrate the ability to write using correct capitalization, punctuation, spelling, and sentence structure	82	17	1	0	0
	73	27	0	0	0
	85	13	1	0	

How important is it for all students to be able to:	Extremely Important	Somewhat Important	Not Too Important	Not At All Important	Don't Know
r. listen to a speaker and evaluate content, organization, and development of the speech	32	47	18	3	0
	30	47	20	2	0
	41	41	15	3	1
s. listen to a speaker and judge whether or not the speaker was successful in creating the intended mood or effect of the speech	14	52	30	4	0
	11	50	37	2	0
	21	54	22	2	1
t. listen to a speaker and identify the main idea and important details of the speech	60	35	4	1	0
	61	35	4	0	0
	59	33	7	1	0
u. listen to a speaker and draw conclusions about the implications of the main ideas of the speech	50	43	7	1	0
	46	44	10	0	0
	44	44	10	1	0
v. demonstrate the ability to speak clearly and logically when relating a story or requesting general information	66	31	3	0	0
	70	26	4	0	0
	69	26	3	1	1
w. demonstrate the ability to change voice tone and vocabulary depending upon purpose and listener	20	51	25	4	0
	19	42	37	2	0
	33	44	19	4	0
x. demonstrate the ability to speak persuasively by supporting statements with evidence	36	48	14	1	0
	41	37	20	2	0
	51	37	8	2	1
y. demonstrate the ability to express orally one's personal values and opinions	61	34	5	1	0
	63	31	5	1	0
	62	29	8	1	0
z. demonstrate the ability to ask for critical evaluations and opinions from others	31	50	16	2	1
	41	43	15	0	1
	41	43	13	2	1

4) The following questions are included for the sole purpose of classifying your answers and determining the representativeness of the sample. Please circle the number where appropriate.

FOR ALL RESPONDENTS:

a. Which of the following best identifies your position? (Circle one number)

1. Elementary Teacher (K-6)
2. Secondary Teacher (7-12)
3. Director or Coordinator of English
4. Director or Coordinator of Mathematics
5. Elementary Principal (K-6)
6. Secondary Principal (7-12)
7. School Superintendent
8. School Committee Chairperson
9. High School Senior
10. Business Community Member
11. Other, please specify ____________________

b. Sex: 1. Male 2. Female

c. In what county is your school, firm, or district located? ____________________

FOR TEACHERS, DIRECTORS, PRINCIPALS AND SCHOOL COMMITTEE CHAIRPERSONS:

d. In what type of community is your school district located? (Circle one number)

1. big city
2. industrial suburb
3. residential suburb
4. small town or other community

If unsure, you may write in your city or town here, and we will code the appropriate response: ____________

FOR TEACHERS AND PRINCIPALS:

e. How many students are enrolled in your school building? __________

FOR TEACHERS ONLY:

f. How many years have you taught? __________

g. What subject do you teach? __________

FOR HIGH SCHOOL SENIORS:

h. What kind of marks do you get in school? (Circle one number)

1. mostly A's	3. mostly C's
2. mostly B's	4. mostly D's and F's

5) We would appreciate any comments you may have. Please use the space below and attach additional sheets if necessary.

Thank you very much for your time. We appreciate it.

NOTE: Please return the questionnaire using the enclosed postage paid return envelo
Please also return the postage paid postcard separately.

SURVEY CONTRACTOR:

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